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And Horticultural Advertiser

EDITED BY THOMAS MEEHAN.

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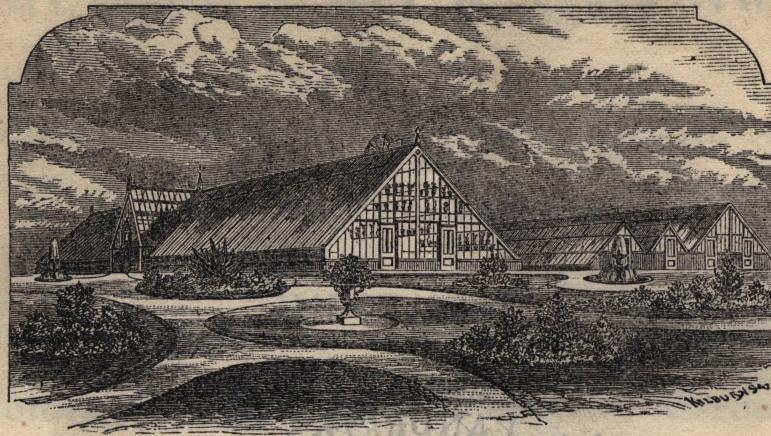
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The Gardener's Monthly,

DEVOTED TO

HORTICULTURE, ARBORICULTURE & RURAL AFFAIRS.

EDITED BY THOMAS MEEHAN.

Old Series—Vol. XVII.

MARCH, 1875.

New Series—Vol. VIII. No. 3

Flower Garden and Pleasure Ground.

SEASONABLE HINTS.

"When is the best time to commence mowing lawns," is the question often asked since mowing machines came into use. In old scythe times it was no question. There could be no mowing till the grass had made growth enough for the scythe to take hold of,—now we want to start as soon as the mower teeth will bite. There is no doubt but that since the introduction of lawn mowers, lawn management has become an art, it never was before, and that considerable knowledge and skill will be required to maintain a lawn long in good condition. If it is cut close and kept cut close, and early as well as often and close, the best of lawns will soon wear out. Roots of course make the green grass blades; but then the green grass blades are necessary to make roots, and if we give the green grass blades no chance to form roots, the plants soon become weak, and other vegetation gets the upper hand. We should not cut early, and when we do cut, keep the knives high, and this through the whole season. We think most people would find their grass keep longer in good health, if cut as high as consistent with a neat regular surface. It is worth while, since lawn mowers are to stay with us, to try if there are not some low creeping grasses that would do better than the tall kinds which did very well under the scythe. Perhaps the Buffalo grass or the Gamma grass of the West would do. Who will try, and report? The lawn must, of course, be well rolled before the grass begins to grow much; and if there are any uneven places, these must be filled with earth before rolling.

The grass will soon grow through, and make things green again.

As soon as all danger of frost is gone, and the earth becomes a little dry, some flower garden work may begin.

Set out the annuals you may have got forward in windows or frames—that is, the hardy ones. The plan used to be to set out in a shower; but that plan is barbarous. No wonder with such old fogyish rules our handsome young ladies are disgusted with gardening. Let the girls lift the seedling carefully from the soil in the pots, set the roots in a saucer of water, take them to their assigned places in the garden, and from the water dibble them at once in. Cover for twenty-four hours with an inverted flower-pot—next day cover only six hours during the middle of the day,—next but an hour or so during hot sun, if there be any; and the plant is safe. Study the difference between hardy and tender annuals. The latter must be set out only in April. In the North—extreme north—also of course, our rules are too early. Go by the season, not the almanac. March is rather a treacherous month, even in our favored latitude. Plants that have been covered by leaves may be undressed if they show signs of growth, which is the best rule for uncovering all kinds of protected plants.

Prune Shrubs, Roses and Vines. Those which flower from young wood, cut in severely to make new growth vigorous. Tea, China, Bourbon and Noisette Roses are of this class. What are called annual flowering Roses, as Prairie Queen and so on, require much of last year's wood to make a good show of flowers. Hence, with these, thin out weak wood, and leave all the stronger.

Box edgings lay well now. Make the ground firm and level, plant deep, with tops not more than two inches above the ground. When box is used as an edging to flower beds set in grass; it must be kept in a few inches or the grass will get in among the box and be troublesome.

They who wish to grow plants in masses, if in separate beds, the colors all harmonizing together, should be sure beforehand that the plants are suited to their location. Many take the plants that they have seen used hundreds of miles away, or from some popular horticultural work, and many have failures in consequence. In our rambles among gardens last year, we saw many of these unfortunate cases,—a dozen beds, perhaps, with two or three failures—enough to spoil the whole design. The leaf plants are the best reliance for most of our climates, and of these the various forms of Coleus are among the safest; though the Irisenes and Achyranthuses are not far behind. For light golden borders, there is nothing yet better than the Golden Feverfew. For silver edgings the Centaurea ragusina is still the best, but keeps expensive where large quantities are required. Last year the Artemisia stellaris was in general use, and makes an excellent substitute. Where a little green with the white is desirable, the variegated Vinca major is very useful. Indeed in a garden of any taste, it is almost indispensable. Some of the succulents are coming into use as edgings for flower-beds, and especially the Echeverias. We shall probably see the Othonna crassifolia and the Mesembryanthemum cordifolium variegatum in use this year.

It is well worth a little study at this season, how to combine plants and flowers for summer gardening so as to produce some unique effect. Gardening as an art, is not simply growing pretty flowers,—the greatest skill is in the arrangement—of course one may spend hundreds of dollars on such work, and then again it need not cost five. We hope to see more of this than we have in the past.

COMMUNICATIONS.

NOTES ON HARDY PERENNIALS.

BY F. PARKMAN, JAMAICA PLAINS, MASS.

A Few Autumn Flowers.

As I write (September 6th), a mass of golden yellow, 6 or 8 feet in width, and as many feet above the ground, rises in the herbaceous garden

against the green wall of shrubs and trees beyond. At a humbler height appear the gleaming panicles of crimson Phloxes, a spike or two of Tritoma, the tall purple spears of *Liatris pycnostachya*, and the white and red of Japan Lilies; but the mass of yellow rises above them all.

Two years ago, I imported from England an insignificant looking plant in a four-inch pot, a native, I believe, of this country, emigrating to the old world, where his merits found a recognition, which they had never found at home. Having thus reclaimed him, I planted him in a good soil at the back of a wide bed of perennials, where, this year, he made the display described above. *Rudbeckia nitida* is the name of the plant; and where a grand blaze of yellow is wanted on the lawn, or at the edge of the shrubbery, it would be hard to find its equal. The individual flowers have very large petals, of the clearest golden hue; and they are by no means to be despised as decorations of the hall, or the mantel. Another tall yellow autumn flower, equally clear, but not quite so deep in color, is *Helianthus decapetalus*, also an emigrant American. Like the other, it is well worth cultivating in a situation suited to it.

America is rich in fine autumn plants. The Hibiscus family, especially, of which four or five representatives are now in bloom here, deserves a great deal more attention than it has received. The reason of this neglect is obvious, but not creditable. In England, and all the northern parts of the continent, the summers are not warm enough to expand the flowers with certainty, before the frost destroys the buds. Hence we hear but little of it from beyond the Atlantic; and consequently slight it. If our warm summers prevailed in England, the hardy Hibiscus would at once take a high floral rank. Some of its varieties are among the most splendid of hardy perennials. Even our common species, *H. palustris*, is a very handsome plant. *H. Moscheutos*, a kindred species, is still handsomer. *H. militaris*, another native, is tall and stately, with bell-shaped flowers, white, shaded into a deep red centre. *H. roseus* comes from southern Europe. It is usually of a rose color, with a deep crimson centre. A great deal might be done by hybridizing these various species, which are all hardy here; and all bloom freely in common soil, provided it is deep and not very dry. There is a fine species from the Southern States, *H. speciosus*, which probably would not bear a northern

winter. The plant is from 3 to 5 feet high, and the flowers 4 or 5 inches in diameter. I have a seedling, here, now in full bloom, which bears white blossoms, faintly tinged with flesh color, and upwards of 6 inches wide.

AMERICAN CRAB TREES.

BY J. STAUFFER.

In a ramble, last spring, I came across our native *Pyrus coronaria*, the American or Garland Crab Apple. Dr. Gray simply says, "that it is a small tree, soon smooth, with the mostly ovate leaves rounded or obscurely heart shaped at base, and inclined to be three-lobed." I may be mistaken; but so far as my observation goes, this beautiful tree is neglected shamefully. I hope you have met with it, as I have, in its native vigor and beauty, growing wild in a moistish and cool situation, in a rich soil of its native forest. A more beautiful object can not be found, when in full bloom, together with its delightful fragrance (early in spring). To see them in masses, and inhale their delicious odor, that perfumes the surroundings for miles,—I may say with an odor like the "*Viola odorata*," or, as some say, like that of the Raspberry.

There is no tree or shrub that can be planted on a lawn that is more beautiful and fragrant. Why is it that we do not find it in cultivation? True, the fruit is small and sour, but it makes one of the most delicious confections or preserves, when properly made, so that it is not ornamental only.

I find that Mr. Robert Furber introduced it in England as early as 1724, and it was deemed the prettiest flowering shrub in the nursery grounds of Messrs. Colvill, in the King's Road, Chelsea, in 1822.

This native seems to be overlooked by our writers on ornamental shrubbery. Its ordinary height is from 10 to 18 feet, with a bole of from 5 to 6 inches in diameter. Insulated trees are sometimes found in old cultivated spots, which measure from 25 to 30 feet in height, with a bole of from 12 to 15 inches in diameter. The profusion of dense clusters of rose-colored blossoms, of a large size, its beautiful foliage, its fragrance, all considered, make it an object worthy of attention; and from the pleasure derived, and the enjoyment of its fragrance, in its native wild situation, I cannot help but commend it to the lovers of the beautiful. If a native of our own forests, it deserves this tribute from your old friend.

[It is singular that in all the botanical excursions of the editor, he has never ran against this tree. If any good friend will send him a few seeds, he would esteem the favor. It is said to be abundant in Maryland.—ED. G. M.]

GRACEFUL COMBINATION.

BY W. F. BASSETT, HAMMONTON, N. J.

The item in the *Gardener's Monthly*, under the above heading, calls to mind a fine instance of the kind among the hills of Massachusetts. In a position so sheltered by almost overhanging hills and tall trees, that the full sunshine never reached it, a Bitter Sweet (*Celastrus scandens*), had climbed to the top of a small Hemlock tree some 15 feet, and in the depth of winter the bright orange scarlet of the berries, intermingled with the green of the Hemlock, and with the snow-covered hillside for a back ground, produced a fine effect. In that instance the depth of shade protected the berries from the sunshine while frozen, and they retained this bright color for months after others in open situations were blackened and destroyed; and this is a "hint from nature," which is frequently illustrated here in New Jersey by the Hollies, which always exhibit their berries of a brighter red, and their leaves of a healthier green when situated in the depth of the forest.

QUERIES.

MAGNOLIA GLAUCA.—*B.* says that so far as Philadelphia is concerned the *Magnolia glauca* grows very well in any good garden ground. We have not yet heard in regard to its growth in the far west,—and we suspect that where it does not do well it is only because, like so many other things in that section, it requires protection from keen cutting winds in winter.

THE TEAS CATALPA.—A correspondent tells us that he has seen pods on the catalpa twenty-six inches long, and one and a half inches wide. This is unusually large. The same correspondent says Mr. Teas proposes to call it *Catalpa speciosa*. We hope for his own sake, Mr. Teas will do nothing so foolish. We had better leave the task of giving botanical names to those who are botanists. If it is really a marked variety, the "Teas" Catalpa, or the "Richmond" Catalpa, or any other local name, will be a better distinction.

UTAH CATALPA.—Under this name some friend sends us an inquiry about a tree, which is *Chilopsis linearis*. It is a pity that such names get currency, as its real name is just as easy to speak as the innovation. Besides the plant is no more a Catalpa than it is a trumpet vine. *Bignonia*, *Chilopsis* and *Catalpa*, are all plants of the *Bignoniaceous* order. It is a pretty dwarf tree in its own region, Southern Utah, and although it seems to endure the hardest winter in Pennsylvania, has not yet shown a disposition to grow well, or make any great show.

PLANTING IN NEBRASKA.—“Spruce Street,” New York, says: “My nephew has now 160 acres of land in Nebraska, 6 miles from Seward, two 80 acre pieces, separated by 80 acres lying between, and owned by somebody else.

“I have read in the *Monthly*, your article on ‘Half Hardy Trees.’ I fancy he could render his property more valuable, if he would plant widely a belt of trees on the weather quarter. Have you an idea what trees, how many to the rod, when, and where shall he take them from, and what would they cost?

“If this conundrum can be solved in a cheap way, I will tell him to plant.

“His neighbor has some cotton trees. They grow rapidly, I know, but are they not feeble, letting the wind through?”

[The last time we were in Nebraska we met a man on the Loup fork of the Platte, who was justly proud of exhibiting to us some walnuts he had gathered from trees raised there from nuts he had sown but seven years before. Considering how remarkably well they must do there, we do not know that any one could do better than plant the black walnut. The growth is rapid enough to make wind breaks within a reasonable time, while the very valuable timber is quite an item,—and then even the nuts will always pay for gathering. It is best probably to grow them direct from the nuts set in the places where they are to remain. Sow them say two or three in a hill like corn, so that they can be hoeharrowed both ways for a year or two. If more than one grows in each hill those not needed can be transplanted to other places. Of course these will be too thick in time but the thinnings will always be found useful, and then the trees grow better for this close companionship. The seeds must be carefully preserved for growing. Those sold in the stores for eating are too dry.—ED. G. M.]

PYRACANTHA HEDGES.—S. W., Shortcreek, Harrison County, Ohio, says:

I would like to know if the Pyracantha would be likely to stand a cold climate, say 42 degrees below zero.

I will just state my reasons for asking the above question. I own a small piece of land in Northern Iowa, which I would like to fence with Evergreen.

I want your candid opinion. I know that Osage is commonly used; I do not like it.

[It should be borne in mind that when people write of “Pyracantha Hedges” they may mean two different things. In the South it means the *Red berry* pyracantha, but this is of no use north of the Potomac. The Pyracantha Northern writers refer to is the *White berry* pyracantha, which, though but a variety of the other, is much hardier, and a closer grower. We doubt however whether it would stand 45° below zero in Northern Iowa, although it might here in the East. We have known it stand 20° below zero in Pennsylvania without injury, but have had no chance to note how much lower it would stand. We have seen isolated plants exposed to wind destroyed when plants under the same temperature close by, protected by one another in a hedge, have been uninjured. It is a slow grower,—taking more time than most other things to make a good hedge; but when once made it takes care of itself with little skill to manage it. It is hard to say whether it is or is not “better than osage orange.” If there be skill enough to manage an osage orange hedge properly, no one need have any thing cheaper or better. It is only because so many people do not know and will never learn, that it becomes desirable to have some hedge plant, which even ignorance and neglect cannot destroy.—ED. G. M.]

RHODODENDRON STOCK.—L. asks: Tell me, if the Rhododendron maximum will do to graft the finer named varieties on, and do they unite with it readily, and should the leaves be taken off the graft or not?

[Rhododendron maximum makes one of the best of stocks. As to whether the leaves are to be taken off depends wholly on the season of the year when the grafting is done. Some graft with the plants in pots in a slight heat and moist atmosphere, in the summer season. In this case half ripe wood is used both for scion and stock. The branch to be grafted is headed back and of course its young leaves cut off, and the leaves of

the scion are left on as much of them as we find will endure the atmosphere *without wilting*. The more leaves the better, if they do not wilt.—ED. G. M.]

RELATIVE HARDINESS OF EVERGREENS FROM COLORADO AND N. W. COAST.—A Correspondent inquires whether plants of Evergreen raised from Rocky Mountain seeds are hardier than plants of the same species raised from seed from the North-west coast. We really do not know. There is a prevalent impression that the Colorado plants are the hardest, but we do not know of any careful experiment that has decided this.

HARDINESS OF RETINISPORA PLUMOSA.—J. L., Lowellville, Ohio, says: I see in many catalogues and elsewhere that the *Retinispora plumosa*, is represented as rather tender. With me it is very hardy. It stands in a very exposed situation, and 26 degrees below zero did not cause it to lose an inch of wood, and the excessive drouth and hot sun of the past summer did not seem to hurt it. I think it as hardy as any evergreen we have. Mine is the *aurea*.

[J. L. is right. It will do any where that the American Arborvitæ will.—ED. G. M.]

ABIES DOUGLASSII.—The small half starved specimen of a branch sent by L. may be of this plant, but it is a mere guess. It is hardy enough in any part of Ohio, *if preserved from wind*.

NEW PLANTS.

THE YUCCA LONGIFOLIA: “*Petra Plant*,” “*Spanish Dagger*.” Professor Buckley has the following in *Our Home Journal*: “This resembles the *Yucca aloefolia*, which is common in cultivation in the Gulf cotton States, but the *Y. longifolia* has leaves nearly one-third longer, a larger and more showy bunch of terminal flowers; besides its lower leaves are often pointed downwards. It is quite common in Western Texas, west and southwest of San Antonio, where it often attains the height of fifteen and twenty feet. It is also found in the mountainous region of San Saba and Burnet Counties, where it is smaller, seldom more than ten feet high. The last of March and in early April it has a large terminal bunch or raceme of white or cream white flowers, which are about three inches in diameter. It was first described and named

by me in the Proceedings of the Academy of Natural Sciences of Philadelphia, in 1861, and is now admitted by botanists to be a very distinct species.

“Dr. W. G. Kingsbury, in the Third Annual San Antonio Fair Reports, in speaking of our native flowers, states: ‘We have a plant, known to us as the ‘*Petra*,’ which is a great curiosity to strangers; it often grows to the height of twenty to twenty-five feet, has no branches, but is armed and protected by a series of sharp pointed, bayonet shaped leaves, from two to three feet in length. The caput of this gigantic plant is crowned in spring time with a pale yellow flower, magnificent in richness and of the dimensions of a flour barrel. This is a member of the Palmetto family, of which we have at least a dozen varieties.’

Two citizens of San Antonio, spending a season in London, were induced to visit a gentleman’s hot-house, a hundred miles distant, for the purpose of seeing a ‘*Century plant*’ in full bloom, the first it was said (by the owner and his friend) which had ever bloomed in England. So gigantic was the plant to English eyes, and so great the excitement, that thousands of people were visiting it daily. Arriving at the place, and paying fifty cents admission, our San Antonio friends were shown a very dwarfed specimen of the Texas ‘*Petra plant*.’

“‘The *Petra plant*’ is not a member of the Palmetto family, but of the *Lily* tribe of plants. There is not a single species of Palmetto known which is a native of Western Texas, but the *Yuccas* abound to the extent of five or six species, all of which are well deserving of cultivation. We have measured leaves of *Yucca longifolia* (‘*Petra plant*’) which were more than four feet in length.”

NEW ROSE—DUCHESS OF EDINBURGH, Crimson Tea.—Most Tea Roses are light—a dark one will be welcome. Messrs. Veitch & Sons say: “the color is a deep glowing crimson, very free flowering, and from its present appearance we have every reason to believe it will make as good a bedding variety as the Crimson China.”

The Flowers are large and full, fine form and substance.

It was exhibited at the Royal Horticultural Society’s Show on May 13th, when it received a first-class Certificate from the Floral Committee, and was greatly admired.

NEW SPIREA.—The *American Garden* of a

recent date, has the following bit of good news :

Mr. Thomas Hogg, in writing from Japan, states that he has found there a new shrubby Spiraea with long racemes of white, fragrant flowers ; and which, in his opinion, will be a decided acquisition to our list of hardy shrubs. He had thus far found but one plant, though

very long in proportion to the size of the petals, and attract attention at once as well as does the novel color.

CHAMÆBATIA FOLIOLOSA.—About ten years ago I saw a small plant of this on a gentleman's lawn, and its exquisite foliage so charmed me



AQUILEGIA CHRYSANTHA.

he entertained the hope of finding others or of obtaining seeds.

AQUILEGIA CHRYSANTHA.—A few years ago the announcement of a yellow Aquilegia, created some excitement, it being a new color in cultivated columbines. It proves to be well adapted to cultivation, and remains in bloom much longer than the ordinary kinds. The spurs are

that I at once resolved to add a specimen of it to my plant collection. I applied to many of our leading nurserymen in England for it, but could never succeed in obtaining a plant. The name occurs in many catalogues, but the reply to every inquiry made concerning it is the same, "regret we cannot supply it." How is this?—J. M. HAWKCHURCH, Axminster, in Garden.

Greenhouse and House Gardening.

SEASONABLE HINTS.

One of the commonest of questions is, why room plants do not do well in cities? and the answer often comes, because of the dry air from the heater. But this is a mistake. The fault is from the burning of gas for lighting purposes. We know of plenty of rooms where the air is as dry as Sahara, but oil is used for light, and the flowers do as well as any room plants can do. If however curtains can be so arranged as to fall down between the "room" and the plants, before the gas is lighted, it is found that no injury results to the plants. Of course there must be outside shutters to the windows, or the shutting off of the gas fumes will also shut out the heat, and the shutters must be depended on for security against frost.

In having window plants in the bed of the window sills, this question of shutters is an annoying one in many cases. The opening and shutting of the windows require either a troublesome removal of the plants, or a danger of breaking them. All this can be remedied by having a moveable bottom for the plants to stand on, and this bottom working on a hinge on one side, and supported by a leg, when necessary, on the other. The whole bottom, with the plants on it, then comes out like an opening gate. This is still better if a castor be fixed on the bottom of the leg. The plants can then be set out of the way, and moved back again in an instant. Better still it is to have a small stand made with four legs all on these little wheels, sloping both ways, and with a shelving projection that will fit into the bottom of the window frame. This can then be shifted round every day, so that every other day each side will have the benefit of the full sun light; and every day a good view of the plants for the sitting room. The idea is so simple, that any ingenious carpenter or wire worker can carry it out.

COMMUNICATIONS.

HOT WATER AND STEAM.

BY F. W. POPPEY.

The heating of our greenhouses and conservatories by means of hot water is generally con-

sidered the cleanest, safest, and in the long run, cheapest mode of regulating the temperature for our plants. Steam would, in the same respects, undeniably be preferable, if it could be obtained by merely connecting the pipes which are to heat the greenhouses, with one furnishing steam to an establishment where it is continually required. But when steam has to be generated expressly, whenever heating becomes necessary, and then perhaps only moderately, the necessity of the almost constant attention to the fire and boiler might be a serious objection, except where the extent of the establishment will justify the employ of a special watch and fireman. In that case, the heating with steam would be considerably cheaper, and more effective than hot water, because one steam boiler would furnish more heat with less pipe than ten times the amount of water pipes would do. For, a 4-inch pipe contains per foot 150.72 cubic inches of water, and the same fuel required to keep this quantity of water at or near the boiling point will suffice to transform enough of it into steam filling 1700 feet of 4-inch pipe. If, then, in consequence of the severity of the weather, the water would have to be kept boiling, it would require constant feeding of the fire, but without a chance of increasing the temperature of the water beyond 212° Fah., whilst with the same attendance and the same quantity of fuel, steam could be produced, and, if necessary, its temperature increased to any degree required. With a hot water apparatus, therefore, we have to heat a much greater quantity of water than is required in a steam apparatus, and are helpless in case its volume is not sufficient to repel an attack of an exceptionally severe cold, whilst in ordinary weather we may cover our fires at ten or eleven P. M., and go to bed, when the steam man will have to stay up and tend his fire till he is relieved. In extreme cold nights, however, both are, as far as staying up and labor is concerned, on an equality, only the steam-man is sure to beat Jack Frost, whilst the water-man is not, unless he has more pipe than most of the time is required.

That the heat radiating from a hot water pipe is qualitatively different from that coming from a steam pipe is all nonsense. Heat is heat, and

everybody ought to know by this time that no more moisture comes through an iron pipe containing water, than through one containing steam. The only difference between the two is, that a hot water pipe radiates with a temperature of 212° Fah., and less, whilst a steam-filled pipe radiates with a temperature of 212° Fah., and more. On which side the positive advantage is, may be a matter of opinion or local circumstances, but such are the facts. In Germany, where in some parts of the country they are, in regard to the cold, similarly situated with us, they have introduced a combination of hot water and steam heating, which, from all accounts, appears to work satisfactorily.

NOTES ON A SUMMER'S TOUR.

BY WILLIAM SUTHERLAND, PHILADELPHIA.

On arriving at South Amboy, I paid a visit to the Greenhouses of R. H. Rathbun, Esq., which I found to consist of five plant houses and one grapery. Five of the houses were neatly arranged on the ridge and furrow system, the walls sunk in the ground, the floors paved with yellow bricks, and the whole of the houses heated with hot water. The benches were covered with small white sea gravel; the pots being all cleaned giving them a very neat appearance.

The gardener, Mr. John Hood, gave me every facility for examining the place. He explained to me before I entered the greenhouses, that as the place was comparatively a new one, I must not expect to see very large specimens. I found, however, that what the plants lacked in size, was more than made up by the choiceness of the collection; and was agreeably surprised, on entering one house, to see two specimens of *Cycas revoluta* with three feet stems, and two specimens of *Cycas circinalis* with two feet stems. These plants had just been imported, and one of each variety had begun to make a fine growth.

The Fern seemed to be a favorite plant here, and, judging from the innumerable seedlings, the gardener was fully up to the art of raising them.

I noticed (to me) a new way of growing the dwarf varieties of *Echeveria* and *Sempervivum* by suspending them in galvanized wire baskets. The baskets were stuffed with Sphagnum Moss, and all over the under side between the wires, as well as on top, the *Echeverias* had been introduced. At the time of my visit most of them were in flower, and they produced a very fine and novel effect. In addition to the *Echeverias*

and *Sempervivum*, (of which there was a very fine collection,) I saw more succulents here than at any place that has been my good fortune to visit. Prominent among them I noticed some very fine *Cereus*, *Pilocereus*, *Echinocereus*, *Mammillaria*, *Echinopsis*, *Stapelias*, *Haworthias*, and *Aloes*, the latter class embraced upwards of 100 varieties, and so struck was I by the variety in shape, size, and color, that I asked Mr. Hood for a list of them, which he kindly furnished, remarking at the same time that they were the finest collection in the United States.

List of Aloes.

AGAVE.	AGAVE.
<i>albescens</i>	<i>hystrix</i>
<i>albicans</i>	<i>gracilis</i>
<i>albida</i>	<i>glaucescens</i>
<i>Americana</i>	<i>compacta</i>
<i>folia variegata</i>	<i>inermis</i>
<i>luteo-striatis</i>	<i>Inghamii</i>
<i>medio pictis</i>	<i>ixtalooides</i>
<i>amœna</i>	<i>Jacobiana</i>
<i>applanata</i>	<i>Kevchovaei</i>
<i>Beaucarnei</i>	<i>macrodantha</i>
<i>nana</i>	<i>lætivirens marginata</i>
<i>Beaulueriana</i>	<i>Laguayaniana</i>
<i>Bessereriana</i>	<i>Leopoldi</i>
<i>amœna</i>	<i>candida</i>
<i>candida</i>	<i>microcantha</i>
<i>comosa</i>	<i>mitraeformis</i>
<i>longifolia</i>	<i>Nissoni</i>
<i>nigrispina</i>	<i>Ortgiesiana</i>
<i>Bonnetti</i>	<i>brevifolia</i>
<i>Caribaea</i>	<i>Ousselghemiana alba picta</i>
<i>Celsiana</i>	<i>pebellia</i>
<i>chloracantha</i>	<i>picta</i>
<i>coerulescens</i>	<i>Posselgeri</i>
<i>excelsa</i>	<i>potatorum</i>
<i>Cordroyii</i>	<i>Pifersdorffii</i>
<i>brevifolia</i>	<i>pallida</i>
<i>dealbata</i>	<i>superba</i>
<i>Dr. Smetiani</i>	<i>Regelli</i>
<i>elegans</i>	<i>macrodontha</i>
<i>Ellemeetiana obovata</i>	<i>Richardsii</i>
<i>ensiformis atropurpureum</i>	<i>robusta</i>
<i>ferox</i>	<i>Salmiana</i>
<i>filifera</i>	<i>Scaberrima</i>
<i>major</i>	<i>Schedigera</i>
<i>minor</i>	<i>Seemanii</i>
<i>viridis</i>	<i>Simsii</i>
<i>Fiquelmonte</i>	<i>stenophylla</i>
<i>fœtida</i>	<i>Troubetzroyana</i>
<i>Ghiesbrechtii</i>	<i>univittata</i>
<i>brevifolia</i>	<i>obscura</i>
<i>Gnedneyii</i>	<i>recurvispina</i>
<i>Gilbeyii</i>	<i>xylonacantha</i>
<i>glaucescens</i>	<i>Verschaffeltii</i>
<i>grandiolinetata</i>	<i>Xalapensis</i>
<i>Gustaviana</i>	<i>Xylonacantha</i>
<i>horrida</i>	<i>lineata</i>
<i>lævior</i>	<i>cornuta</i>
<i>nana</i>	<i>vittata</i>
<i>pygmæa</i>	<i>Yuccæfolia</i>

I also noticed two very fine specimens of the Old Man cactus, *Pilocereus senilis*, the long hair

like appendage completely covering the plant. In another house I saw a very fine collection of Caladiums and Orchids. Of the latter collection there were small plants of nearly all the leading kinds of the old varieties. There were some very nice specimens. Another house was filled with Palms, Crotons, and Marantas. I also observed a very fine collection of Begonias, both ornamental leaf, and flowering varieties,—of the latter class I saw several hybrids of Boliviensis, which are likely to prove good bedding plants in some situations.

There was quite a number of Ficuses. Prominent among them was *Ficus Cooperii* and *dealbata*, and a variety resembling *Ficus elastica*, but with leaves very much larger, called (I think) *Murrayana*. On the outside there was a very fine bed of *Mesembryanthemum cordifolia variegata*, which is comparatively scarce as yet, but in my judgment is destined to become one of our most popular plants for hanging baskets and vases. Its bright purple flowers contrast with its white and green foliage, forming an effect which must be seen to be appreciated.

The Castor Oil Bean plants, and Cannas,—some twelve varieties of very distinct kinds,—seemed to bid defiance to the dry weather; but all else except the succulents showed the effect of continued drought.

CYPRIPEDIUM ROEZLII.

BY MANSFIELD MILTON, NORTH-EASTON, MASS.

This new and rare Cypripede was first flowered in cultivation, if I mistake not, in the collection of Mr. Such, of South Amboy. It is a very attractive species, a specimen being in flower here just now. The leaves grow about eighteen inches long and about one inch broad, of a light green color, from the centre of which rises the flower spike producing eight or ten flowers, one flower only being open at once, which lasts in a cool house, a good while in perfection. As soon as one flower decays another is ready to expand, and so keeps in flower for months.

The flower is large, the sepals being greenish white striped with brown, having an edge of pure white; the petals are narrow, about four inches long, of a bright red color, thickly set with dark red hairs towards the end; the sac is pale green inside with small brown spots; outside it is of a glossy brown color. It is very attractive and deserves a place in any collection.

Thunbergia Harrisii.—The beauty of the flowers of this plant and their adaptability for

bouquets, make it deserving of special mention as a greenhouse plant. It is of scandent habit, the flowers being produced in racemes at the end of the shoots and in the axil of the leaves, they are gloxinia shaped, about four inches across, of a light blue color with a pure white throat.

It is best grown as a pot-plant and trained on a wire trellis, although when well cared for does well trained on a greenhouse rafter, but being very liable to become infested with mealy bug it is more difficult to clean than when grown in a pot. It does best in a pretty warm greenhouse, thriving best in a soil composed of turf-loam, leaf-mould and a little well-decomposed manure. After flowering cut well back and start in a moist atmosphere, syringing overhead occasionally when growing. As it grows very fast, the shoots should be daily attended to, training into the desired shape.

As a florist-flower for winter use this should be more cultivated than generally seen; being a color so much wanted for cutting purposes, as also its free flowering qualities in a young state. It requires to be seen before a real knowledge of its beauty can be acquired, as any description which can be given is inadequate to convey a true idea of its actual beauty.

EDITORIAL NOTES.

TREATMENT OF FUCHSIAS.—*The Gardener's Chronicle* has this to say: "Fuchsia cuttings struck in August, from which by far the best and most satisfactory plants for next summer can be grown, should now, if not already done, be potted into 6 or 7-inch pots, and placed in a house just free from touching the glass, in a night temperature of 50°. Keep them tied up, and the leading shoots stopped, according to natural habit of the variety, for growing bushy or otherwise. Keep a look-out on plants so treated for red-spider, for, if any has been lurking upon them through the autumn it will in such a temperature live and injure their leaves. Old *Fuchsias* that have done flowering, and which can be brought into bloom early to precede the above plants, should be now partially dried off, but, if required early, they should not be kept dust-dry. They should be placed anywhere under glass where they will receive a little light, but not where they will get drip from other plants, which they will do if put under stages or similar places; in such situations the pots should be laid down on their sides."

ADIANTUM FARLEYENSE.—Probably one of the finest examples in the United Kingdom of the beautiful exotic Fern, *Adiantum Farleyense*, "The Queen of the Maiden-hair Ferns," was shown at the exhibition of the Stamford Horticultural Society, September 4. It was staged by Mr. Allsop, gr. to C. T. S. Birch Reynardson, Esq., Holywell Hall, Lincolnshire. Well grown, very healthy, and beautifully colored, this specimen must have measured nearly or quite three feet in diameter; and the boldly arched elegant fronds gave it a fine symmetrical appearance, which did not fail to excite the admiration of all who saw it. A single frond of this superb Fern is a sight to be thankful for; but it is when a large and well-grown example of it meets the eye, that one seems to fully appreciate and delight in its exquisite beauty and almost unrivalled elegance.—*Gardener's Chronicle.*

NEW PLANTS.

DOUBLE RHODANTHE MANGLESII.—For early spring blooming in pots, we have always had a partiality for this beautiful Australian "everlasting,"—which we take to be as good a word as the French *immortelle*. The Germans have now produced a variety in which all the disk florets are ligulate as well as the ray florets,—in popular language, *double*. We believe it goes by the name of the "Prince Bismarck."

AZALEA—DUCHESS OF EDINBURGH.—A profuse blooming variety, of good habit, very promising as an exhibition variety; flowers large and bold, pure white, of excellent form and good substance. It is also a desirable variety for those who want early bloom, as it forces easily and well.—B. S. WILLIAMS.

AGAVE TAYLORII.—This beautiful and distinct hybrid is the result of a cross between *A. geminiflora* and *A. densiflora*, and was obtained by Mr. Taylor, who is so well known in connection with the celebrated collection of Cycadaceous plants at Lauderdale House, Highgate, and the result is both singular and beautiful. It is compact in habit, and forms a most elegant specimen; the leaves are from ten to twelve inches long, and half an inch broad, dark green on the upper side, slightly paler below; they are armed at the apex with a long, stout spine, and margined their entire length with pure white; in addition to this they are beautifully orna-

mented along their edges with long and broad white filaments, which add materially to the beauty of the plant. The close and compact habit of this variety will enable those having but limited accommodations to find room for it in their collections.—B. S. WILLIAMS.

HABROTHAMNUS ELEGANS ARGENTEA.—In this we have one of the most beautifully variegated greenhouse plants ever offered. It may be grown as an ornamental shrub or used for covering a wall or pillar in the greenhouse or conservatory, in the latter situation it is especially ornamental; the leaves are alternate, entire, oblong-lanceolate in shape, and acuminate about six inches in length by one in breadth; nearly the whole of the surface is soft creamy white, beautifully tinged with rose and relieved by irregular blotches of light green; the flowers are produced in dense racemes, tubular, about an inch in length and deep reddish purple in color, affording a splendid contrast to the delicate white of the foliage. It has been exhibited under the name of *H. Hawkshawiana*, and was awarded a First Class Certificate.—B. S. WILLIAMS.

PARTI-COLORED DAHLIA.—W. B. K., Abingdon, Va., sends us a Dahlia seedling, in which all the outside petals were a rich crimson, and the inner ones pure white. The flower was a good one independently of its color. These parti-colored Dahlias are seldom constant. That is there will be flowers often, all of one or the other color. But if this should prove constant, it will be a valuable seedling.

DICHORISANDRA MÓSAICA.—An extremely handsome plant, of dwarf habit; leaves are large, ground color of the upper side rich deep shining green, traversed with an innumerable quantity of paralleled transverse fine white lines; the under side is of a uniform deep purple. It also produces lovely rich azure flowers. Native of Peru.—B. S. WILLIAMS.

LOBELIA PUMILA GRANDIFLORA FLORA PLENA.—This is one of the greatest acquisitions of the season. It is a beautiful light blue color, resembling the shade of the Neopolitan Violet. The flowers are large, full and very double. It is a free bloomer, as well as a fine grower.—H. CHITTY.

APHELANDRA FASCINATOR.—This is a superb

species, and, unlike most of the variegated leaved plants, produces a splendid inflorescence in addition to its leafage; the leaves are rich dark green, beautifully blended with silvery white, whilst the under side is of a uniform purplish violet; the spikes in bloom are very large, bright vermillion in color. Native of New Grenada.—B. S. WILLIAMS.

QUERIES.

EMPLOYMENT FOR LADIES.—“A reader,” Madison, Wisconsin, asks: “Will you be so kind as to inform me through the columns of your magazine, whether any of the large greenhouse establishments, East or West, employ ladies; if so, is the renumeration sufficient for the support of a lady and child, they having a small income. The lady being well acquainted with every branch of floriculture.”

[In a very few cases, women are employed in greenhouses, but in such cases we believe they have not been paid as much as men, nor on the whole do we think the experiments which have been made in that way, have been sufficiently satisfactory either on the part of women to take such work, or employers to seek them. In bouquet making, and cut flower work in general, however, it is different. In this line many women find employment as waiters and sales-women in flower and seed stores. Still more women are employed than in other branches, and in some few cases as clerks and book-keepers. So far as we can ascertain how-

ever, the wages are not generally the same as for men for similar services. This is not because of any indisposition to grant the principle that similar work ought to have similar pay, but because they do not like change, and women’s labor is not regarded as of such permanent character in a general way as men’s. For this reason men’s labor is preferred to women’s, unless the latter is cheaper. We do not know exactly what the average rate of wages is for women’s work in these situations, but judging by appearances a careful person would be able to support herself and child. We should be glad to see more avenues of Horticultural employment open to women. We have thought it would serve this purpose by answering this query as we find the facts, with the difficulties and all indicated.]

VARIEGATED CARNATIONS.—Mr. Chitty, of Bellevue Nursery, Paterson, N. J., sends us a specimen and the following note: “Your correspondent writing from Dubuque in regard to Carnations with variegated foliage, reminds me that we have one which appeared during the past summer among a lot of the variety known as *La Purite Variegata*, it has the flowers of the good old sort, but the stems and foliage are distinctly striped with cream color. We have recently cut up the plant for propagation, but I send you a few leaves and part of the stem, which will be sufficient to give you an idea of its peculiarities of marking. It is the first attempt at variegation in the foliage of a Carnation that I have seen; there may be others about the country.”

Fruit and Vegetable Gardening.

SEASONABLE HINTS.

When every one can grow things, there is not much profit. Profit comes from skill. He who has what every body wants, gets along,—while no matter how much one may have of what nobody needs, it is “a drug in the market.” Of those things which all want, and few have to offer, is the Plum. But the curculio stands in the way. Any one who has knowledge enough to preserve plums from its attacks, and energy enough to

use his knowledge, has a fat thing in a business way. The prize is surely worth contending for,—and we are surprised that so few aim at it. Some are looking for “a curculio proof variety,” and in pursuit of this are introducing wild things, which it would almost disgrace a hog to touch. We doubt whether plum culture will ever amount to much in this direction. Then we have plans for trapping curculos,—but these are like mopping up the overflowing ocean. The true direction is in preventing them from attack-

ing the fruit. Jarring the trees, and collecting the fallen foes, does some good, *provided* it be continuously done; but it hardly pays unless the orchard is on a large scale, and the insects not particularly numerous in the vicinity. On the whole, one of the best plans is in training the trees so that they can be easily covered with cheap gauze. At the York meeting of the Pennsylvania Fruit Growers, Prof. Heiges exhibited photographs of branches laden with beautiful fruit. He has abundance, while his neighbors have none. He covers the fruit with strong whale oil soap, through a hydropult, *going over the trees after every heavy rain*. Scores of people have written that they have tried washes of this kind and failed,—and we think our Entomological friends laugh at the notion. They will most likely insist that it was “something” else which induced the curculio to let President Heiges’ Plums alone. We don’t know about this,—but we do know that Mr. Heiges is a man of sound practical common sense; and if we were disposed to compete for the great prize which assuredly awaits any one who will go into plum growing in earnest, we should be very much disposed to repeat his experiments on our trees.

In the vegetable garden we might give a hint in asparagus culture, that if very large stalks are desired the soil must be very rich, and the plants set as wide apart as rows of corn. It is to be observed that those who believe there are some varieties of asparagus that may be reproduced from seed, urge the necessity of planting very wide apart. We do not know that *very* large stalks are especially desirable, and for ordinary use would set the plants about twenty inches apart; about four inches beneath the surface is deep enough to set. Good deep soil is *generally* good; but if in a stiff soil, deepening it for asparagus, only makes a *well* into which the surrounding waters drain. It is much the better in such situations to plant in raised beds. The alleys between, then serve as surface ditches. Many failures in planting asparagus, arise from this depth of bed, under such circumstances. The plants rot from water about them.

In the open ground Peas and Potatoes receive the first attention. Then Beets and Carrots. Then Lettuce, Radish, Spinach, Onions, Leeks and Parsley. Beyond this, unless in more favored latitudes than Pennsylvania, little can be done till the first week in April. There is nothing gained in working soil until it has become warm and dry.

Those who have no Spinach sown in the fall should do that right away; no amount of stable manure but will be a benefit to it, though guano, in even smallish doses, will kill it. Guano produces excellent Cabbage, mixed with the ground while it is being dug for that crop. Cabbage, is ready; and Potatoes are better in before the beginning of next month, if the ground is not too wet; many plant Cabbage between the Potato rows.

Onions are better put in early, but the ground ought to be dry, and trodden or beaten firm when the sets are planted; the ground ought not to have rank manure—wood ashes and pure undunged loam will alone produce an excellent, crop.

To have Turnips good in spring they must be sown very early; they are hardy, and must be put in as soon as the ground can be caught right.

Parsley delights in a rich gravelly loam, and should be sown very early.

Parsnips, another crop which should receive early attention, also delights in a deep gravelly soil, but detests rank manure.

Lettuce and Radishes continue to sow at intervals.

Herbs of all kinds are best attended to at this season—a good collection is a good thing.

The Carrot will thrive in soil similar to the Beet; lime is an excellent manure for it—we use long Orange. Celery may be sown about the end of the month, in a bed of very light rich soil, and Tomatoes, Egg Plants and Peppers sown in pots or boxes, and forwarded. It is as bad to be too early with these as too late, as they become stunted.

In vegetable garden culture it must be remembered that we have to operate the reverse of what we do in fruit culture. A woody growth is what we require for fruit trees; but we need for vegetables a soft, spongy, succulent character, the very reverse of this. For this end the ground cannot be too deep, too rich, or too much cultivated. The hoe and the rake should be kept continually going, loosening the surface and admitting “air and light” as the old books used to say. There is not only an advantage in this for the direct benefit of the plant, but an early use of these tools keeps down the weeds, and thus we save labor. It is a great thing to be “forehanded” in the weed war.

COMMUNICATIONS.

APPLE—"DOBBIN'S SWEET."

BY A. HUIDEKOPER, MEADVILLE, PA.

The above apple has, although not a new one, not secured a notice on the pages of Downing; nor so far as I am aware, has it been described in any of the Horticultural journals.

Over a quarter of a century ago I got grafts of it from what was supposed to be the original tree in the garden of Captain Dobbins, on the Lake shore in the City of Erie, Pa. *Size*—In size and texture it resembles the Rambo, with the same tendency to be water cored. *Form*—Round, depressed with smooth deep cavity at eye and stem; calyx closed. *Color*—Yellow, with gray spots, skin smooth, becoming somewhat oily. *Quality*—Refreshing, juicy, slightly saccharine, good to very good. *Season*—From October to January. Tree a good grower and bears well.

VISIT TO A STRAWBERRY FORCING ESTABLISHMENT.

BY JAMES BARNES, EXMOOUTH, ENGLAND.

A visit to Mr. John Westcott's fruit garden, one fine Spring-like day, afforded me great pleasure. The order and cleanliness of about nine acres of healthy fruit trees and general market gardening ground with its present prospects of fruit highly gratified me. The successful culture of the strawberry under glass absorbed my interest and attention very much, especially in observing the simple, but most successful, method of its cultivation. I have never yet seen this delicious and wholesome fruit brought to such perfection in my travels through a long practical and eventful life. In Mr. John Westcott's garden there are long narrow low pits or houses of glass heated with hot-water pipes, and stored with thousands of pots of strawberries, the perfection of which certainly does the grower the greatest credit. Mr. Westcott has made for some years a specialty of the strawberries under glass. In his method of culture he has studied and found out nature's ways. He does not cultivate his strawberry plants in large pots, neither are his plants large and robust, and with luxuriant foliage. The pots they are grown in are small as compared to those generally to be seen in use for strawberry culture; in fact they are what we used to call forty-eights and small thirty-twos, averaging at the summit from four inches to five and a half inches in diameter, and

the same in depth. The plants are dwarf and sturdy, of small foliage and short foot stalks, the crown's-head or centre buds are large and firm. In size about the end a blackbird's or pigeon's egg. When placed in a house they burst out slowly, as they are assisted so to do, into sturdy flowering stems. Each stem in due time is first covered with strong buds, which assisted to open, and blossom strong, looking up cheerfully and prominently to the sun and light in such profusion and beauty that it is indeed an interesting and grand sight to behold. The next process in setting or fertilizing the blossom, in order to produce a heavy crop of fruit in all kinds of seasons—early or late—no matter if the weather be dark, windy, cold, or stormy—all of which many practical fruit cultivators have reasons to know something about. In early fruit culture many have observed failures in the bountiful setting and swelling off of a crop of strawberries; after, to all appearance, they had a glowing prospect of success. John Westcott is quite up, too, and at home in this most essential point. His strawberries blossom boldly, and look as happy as a May morn. They are quickly set, and so is every blossom. The floor of the house, or pit, is covered with cast blossoms like a healthy blooming cherry orchard on a fine and gentle windy, but late April morning. All being now beautifully set, and the fruit swelling fast, it gradually weighs down the branches to the edge of the pots, if not propped, staked, or supported in some way. This, however, is not much attended to here, the fruit being allowed to hang over the sides of the pots, to swell, &c. And that too in such profusion and abundance as I never beheld elsewhere. The swelling off—of such a crop of fruits is quite marvellous and the color and firmness of the fruit when finished are also surprising. Our practical men for the sake of their own, and their employer's interest should study Mr. Westcott's method. The fruit produced by him is so firm that there is no difficulty in packing it for London, Bath, Exeter, Taunton, and other markets. The flavor at various seasons is all that can be desired; if not, it would not so readily command a free sale and high prices. The varieties Mr. Westcott cultivates this season as his main crops are the Excelsior and the Claimant. The facts I have mentioned are well worthy of being proved by those interested in the strawberry culture. This can be done without encroaching or robbing Mr. Westcott of his invaluable time; every minute

of which is of great value to him, more particularly at this season of the year. Practical men could see and learn a useful lesson with their mind's eye open while there, without getting into long and tiresome yarns or hanging about prating on matters that have no reference to the subject in hand.

EDITORIAL NOTES.

THE ROT IN THE GRAPE.—*Our Home Journal*, of New Orleans, translated the whole of Professor Planchon's admirable report of his examination of American grapes,—the translation running through many successive numbers. This is what Mr. Planchon says about the rot:

In July, when very abundant rains are followed by violent bursts of sunshine, all of a sudden, the grapes, still green, scarcely more than semi-developed, have their grains burned with a brown stain on one side. This stain has an aureole, more or less deep in tint; below the stain the tissue becomes hardened, and the whole grain dries up or rots, according as the weather may be wet or dry. We might believe that this was a simple meteoric action, analogous to drouth, for instance, if we did not often see upon the pellicle of the stain small salient points, like pustules, whose nearly imperceptible orifice emits a wormy droplet of a gluey liquor, which the microscope reveals as containing the spores of a cryptogam of the group called by botanists *Pyronomycetes* or *Hypoxytes*. These organisms are often found with nourishing filaments, disseminated upon the epidermis of plants, whilst the apparatus of fructification show themselves on the exterior.

The cryptogam of rot has been described by Messrs. Curtis and Berkley, under the name of *Phoma uvicola*; but the history of its evolution is still to be made, and until the present, nothing has been suggested to stop its ravages. Happily all grapes are not subject to it, but the *Catawba*, so precious in many respects, is, which makes it a very uncertain crop.

CHARLES DOWNING STRAWBERRY.—Mr. Vining, of Worcester, Mass., gives this the following excellent character in the *Practical Farmer*:

The Charles Downing has been liked best of all new comers here, but it is not fit for long carriage or keeping. Customers were afraid to buy them at first on account of their light color, but this year the best families have called for them, as they found them less acid than the Wilson.

They are an attractive-looking berry when picked fresh from the vines, and far superior to Boyden's No. 30, for a market berry in this section.

HALF POUND PEACHES.—The *Bucks County Intelligencer* of last autumn says:

By far the largest peaches we have seen this season were raised by Joseph Garner, of Doylestown township, near Castle Valley. They are of a late yellow-fleshed variety, rounder than the Crawford, but much larger. Two of them weighed more than a pound, and one shown us measured eleven inches in circumference. Mr. Garner has four trees of them, and as others grown from the stones of them produced similar fruit he thinks they are seedlings.

WHERE CAN WE GET THEM?—We frequently get applications as to where articles noticed in this magazine can be procured. It may be that sometimes a score or more people might have them,—and if we named one more than others, the latter would have just cause of complaint against us. As a matter of justice therefore all such matters must be strictly confined to our advertising columns. If not found there the reader may conclude, without writing to us, that the article is not yet offered for sale.

GARDEN LABELS.—In the olden times, wet days were great conveniences. It was the great periods for making labels by all hands. But machinery took up the job, and smoothed and notched them for us better than ever the jack knife could do. Still, wet days served to wire labels. Now an Ohio man has a machine which makes and wires them, and so far as labels are concerned "wet day's" occupation is wholly gone.

NEW FRUITS & VEGETABLES.

MENOCHER'S NO-CORE APPLE.—We have from L. S. Reid, New Florence, Pa., some samples of this, which proves it to be a very different fruit from the coreless one from Kittanning, and as it is an excellent fruit in every respect, and worthy of dissemination, we give a description of it to aid in its identification. Fruit heavy, large, varying from depressed globose to oblong, generally larger on one side, calyx closed in a wide somewhat irregular basin. Stem an inch in length in our specimens, slender, in a deep russety basin. Skin greenish yellow, splashed, and often almost covered with crimson; over which are thickly scattered very large epidermal dots. The flesh is of the texture,

color, and general character of the Baldwin. Generally there is no core, but once in a while there is a small scale, and we found in several apples, one imperfect and one perfect though small seed.

The Kittanning no-core is flatter, not so large, more irregular, has no regular basin or calyx sepals, and the epidermal dots are smaller, and open mouths, which few of these have. We append what Mr. Reid says of Menocher's no-core.

"I intend to ship by express a small box of specimens of winter apples, as promised in a former note, to your address, but I am sorry that by carelessness on my part, the No-Cores are in very bad order. In the first place they had to be shaken from the large old tree on which they grew, and being large, (as you will find them to be), they were badly bruised with the fall; and still worse, by an unexpected sudden freeze they were badly frosted, even slightly frozen to the heart, which has occasioned premature ripening.

"Not '*Nabon's*,' as appears in the *Gardener's Monthly* of November; but Mabon's Long Keeper, which you will find in the bottom of the box, were also slightly frozen, but appear as firm as ever. The tree upon which they grew, (and the only tree of the kind I believe in existence) is so old, and so much on the decline that its fruit is small at best compared with what it was thirty years ago; and as we have experienced the severest drouth the past summer ever known in this section, all apples here are much smaller than usual. I have not fit specimens of the apple originating in my father's orchard, nor of Menocher's Best Winter; but will send you such as I have that you may judge of the flavor of these two varieties.

"You will find the two last named varieties in the middle of the box, and the 'No-Cores,' next to the lid. They are here in Ligoneer Valley called 'Menocher's No-Core.' It ought to be called Menocher's Small Core, as those I have examined this season nearly all have a little kind of core, and some of them a seed chaff, but no seed. However my family are of opinion that apples got from Mr. Menocher other years had not near so much the appearance of a core as those of this season.

"Please find mixed among the 'No Cores,' another seedling from a very old and dilapidated tree in my father's old orchard; perhaps about eighty years old, nothing but a few brambly shoots from the old trunk remaining. When I

was a boy fifty years ago these apples grew to a very pretty size, and though dwindle down to their present diminutive size, they still continue to be smooth and clear of specks, and keep well, and to my taste are among the best flavored winter apples I find, and are highly appreciated by Mr. Alexander's family who now own the old homestead, notwithstanding there is a great variety of the best grafted fruit of the country on the same farm.

"Please give your opinion freely respecting these different seedlings, and oblige your friend."

[*Menocher's Best Winter* is a medium sized (rather large) apple—very sweet—and at least equal to the best of the season. Years ago we should have given a description of it, and recommended its dissemination without hesitation, but the number of good apples is now so large that one renders no service to pomology by haste in describing new ones. Still we think so well of this one, that we recommend a careful comparison with popular kinds of the same season, to ascertain if it has any superior points.

The other seedlings are good, but not superior to others on our lists.—ED. G. M.]

THE GOLDEN TROPHY is said to be a sport from the ordinary Trophy tomato, and partakes of the excellent quality of its parent in every respect.

PYRUS MAULEI.—By some accident our printer separated this from our article last month:

We believe that the *Pyrus Japonica* does not fruit often in England; here it does, often in great abundance. The aroma is as grateful as the P. Maulei is represented to be. Until the past few days, however, we had never known of any one attempting to make use of them, but we now know that they make an excellent 'marmalade.' However, Dr. Masters has recently decided that it is a distinct species from *P. Japonica*, and this settles the question. We shall look for its introduction here with much interest.

QUERIES.

TRIPS.—*R. H. N., Springfield, Illinois,* writes: "I have for many years been greatly annoyed by myriads of thrips, which every season seriously injure my outdoor and indoor grapes, and damage, destroy or prevent, the growth of many kinds of trees and other plants.

I have tried about all known remedies with but little success. If the *Gardener's Monthly* or

any of its correspondents, will suggest a practical means of their destruction, a great favor will be conferred on many horticulturists, for which none will be more thankful than myself."

PRESERVING GRAPES.—*J. E. W.* 108 Broadway, New York, writes: I notice on page 13, of your January number of *Gardener's Monthly*, under the head of "Grapes—late keeping," you speak (South Down article does,) of changing water. Now please inform me how the grapes are kept, with the help of water.

I kept the "Iona and Isabella" till about Christmas, by laying the grapes on a sort of wire gridirons made for that purpose, in single layers and placing them in my cold room. But they shrivelled some.

[In England of late years a very successful plan of keeping grapes by water has been discovered. A piece of the wood of the vine is cut off with the bunch, and placed in a vial of water,—the vials sunk in wooden shelves, made for the purpose. In cool rooms, grapes will keep till spring in this way.—ED. G. M.]

SWEET POTATOES.—*J. M. De P.*, Crawfordsville, Indiana, asks: "Where can I get the most information on growing Sweet and Irish Potatoes? also the most information on irrigation?"

[We do not know of any special works on these subjects. Our columns are freely open to any inquiries regarding special topics connected with these or any other vegetable on which information is desired.]

VINE BORDERS.—The following note from

Mr. Corbett came too late for the purpose requested:

"When you revise my article on 'The formation of Vine Borders,' please add the words bone dust, or half inch bones. As it stands now the four last words are left out; namely, half inch bones. Other words read thus 'A concrete of lime.' Please write lime and sand.

"If the alterations can be made so as to bring them in their proper place, do so."

FRUIT CULTURE IN MICHIGAN.—*H. M. Bidwell*, Secretary South Haven, Michigan, Pomological Society, says: Our coldest weather was January 9th, six degrees below zero. The next will be our 20th annual crop of peaches.

FORD'S CLUSTER TOMATO.—*A. A. B.*, Coburg, Ontario. We never recommend one seedsman more than another. It is a western variety, and no doubt any of the leading western seeds-men could get it for you.

DWARF PEAR CULTURE.—*Messrs. T. G. Yeomans & Sons* write as follows: We like these brief communications, and wish we had more of them. They tell a long story in a few words.

"Our Dwarf Pear Orchard, in grass, gave us over eight hundred barrels of very choice pears in 1873, and between five hundred and six hundred barrels fine fruit in 1874."

And yet some people write that "Dwarf Pears are a failure," our opinion is that barbarous modes of culture are always failures whether with Dwarf Pears or anything else.—ED. G. M.

Editorial.

MODERN TREE PLANTING.

If our readers will remember what we have said to them at various times about vital power, and about the immediate causes of death in plants, they will be able to so apply the knowledge to transplanting trees, as to make the operation an absolute certainty. Indeed the progress of knowledge in this direction is so great of late years, that we regard it as a reproach to any one's intelligence not to be able to say at once whether a tree will or will not

live after transplanting, provided the necessary conditions of success are complied with.

The first requisite is to judge of the degree of vital power a tree possesses. Scientists tell us that we cannot define vital power. It makes no difference for our purposes. If two trees are growing side by side, in about the same circumstances, and one has yellowish leaves, a stunted growth, and a hide bound stem, while the other is green, vigorous, and clean; we may say that one has a higher vital power—a greater hold on

life,—and this is proved by the fact that if the two trees meet with equally unfavorable circumstances, the former will be the first to die. Transplanting is a great blow to the vital principle,—as much so as any of the causes which produce yellow leaves or hide bound stems,—and if two trees of equal age and size are moved, though the operation is alike in both instances, the low conditioned tree may die, while the other does well. This is often the reason why some large trees fail in removal. The larger the tree, as every one knows, the greater the risk. Therefore it is one of the first points in forming a judgment as to the chances of moving a large tree, to be able to decide how active the vital principle may be.

Unless this vital principle is strong we conclude at once there is to be some risk in transplanting the large tree. Then we must remember that moisture is an essential element in vitality. When a tree is dead it is dry, and half dead when half dry. We have to take care that every chance possible for drawing water from the earth is given to the tree, and every aid afforded it that will help to keep the moisture from escaping through the branches, until the vital principle recovers from the transplanting shock. This principle has been recognized to some extent by European planters, but still very imperfectly. We have been told often how they transplant large trees in France, and have seen illustrations showing how it was done, with now and then an American imitator, "who has been there," but who is entirely ignorant of the fact that the operation of moving large trees is much more successful in his own country than in any in the world. This French plan is to swath the trunks in straw or hay bands, and to keep them soaked with water. This to be sure is a slight benefit, just as when a man cannot take food, he has been kept alive a little while by soaking the body in nourishing liquids. But in these trees there is very little evaporation from old trunks. It is the soft and weak branches that lose the tree's moisture, and the less vital these branches are the more easily does the moisture pass away. Tons may escape from these, for every few pounds that go out from the trunk,—and it is to these evaporating branchlets that the great care of the transplanter is to be directed. The weaker the branches or branchlets are, the sooner they are liable to die. In a heavy freeze in the winter the weak branchlets die first,—under a heavy summer's drouth, it is the same

thing,—and in transplanting if any one will carefully watch the effects, it is the small twigs which die long before the main stem does. In transplanting, therefore, whenever it is necessary to cut anything away, it should be the weak branchlets, and not the strong branches. Yet this is rarely thought of. Many a man is mortified when desiring to have a large tree removed, the operator tells him that to be successful, most of the head has to be cut away. He thinks, and rightly thinks, he may as well begin with a young tree. The saw is brought out, and the head cut ruthlessly away, and the stump is called a "large tree." Now this is not only unnecessary but an injury. In the largest tree, no other implement for pruning is necessary than a strong pruning knife, guided by a strong arm perhaps in some cases. Every small twig should be cut away, leaving a small spur near the main branch; but all the vigorous main branches should be left,—only perhaps in some cases, shortening the last year's growth from the tops of them. One cannot insist too strongly on this, and we repeat it, to cut out all the branchlets, and leave the main branches, is one of the best conditions of success.

We need scarcely say much about preserving the roots, for these are the pumps which draw in the water supply. Every reader of the *Gardener's Monthly* knows by this time that the old woody stuff immediately about the trunk of the tree can scarcely be called roots. They were roots once, but with age they are little more than old bones from which the marrow has long since dried. The roots, which are recognized as such by the tree itself, are the two or three year old ones, that are at the circumference of the growth circle, and generally about as far out as the branches extend. The old ball of earth system, that takes away the old bones of roots, and leaves in the earth the young nerves and muscles, is ridiculous in the light of modern knowledge. A "ball of earth" is useful to keep young and tender roots from drying, when we have the roots to keep from drying,—but when we leave the roots in the ground, and take the "ball" instead, it is absurd. They who want all the roots start and make a deep ditch—say two or three feet deep—around about the point where the young roots are, and then approach the trunk with a stout fork by the process known to the laborer as "undermining." This plan does not take long to do when done right, and time is an element of success in this that the longer the

roots are exposed, the more likely they are to be injured. Still when covered with earth—that is when dirty—they do not dry very soon,—and even here we may give a good hint. Many keep a water pot—and sprinkle the roots from time to time as the work is in progress; but this washes the dirt from the roots, and causes them to dry out almost immediately. It is best to let the mud-

dy water stick to the roots, and trust to shade from the sun and shelter from wind to keep the earth from drying.

These are the principles now kept in view by American planters of large trees. By them large trees are now moved as successfully as small ones, and at a low cost that would have astonished the gardener of former days.

Natural History and Science.

COMMUNICATIONS.

AMONG THE CALIFORNIAN BOTANISTS.

BY JAMES S. LIPPINCOTT.

A residence of ten months duration in California afforded me opportunity to become acquainted with many of the remarkable plants peculiar to that State; and with several of her adopted sons who have made her flora an object of especial study. If the botanical enthusiasm may anywhere rightfully possess its student, surely California's claim to this prerogative will not be questioned by any one who has passed many months among her infinite spread of flowers, which in early spring render that State almost one continuous "field of the cloth of gold." Five hundred acres in one body, covered densely by the California poppy, *Eschscholtzia* well known to our readers, and too brilliant for mortal gaze, might have been seen near Los Angeles, in March of the year just closed. Hundreds of acres of *Burrielia chrysostomia* or the golden mouthed, adorned and varied by beds of blue *Phacelia* as regularly shaped and as neatly trimmed as if they had obeyed a gardener's hand, delighted us as we approached Los Angeles from its port of San Pedro. Her *Dodecatheons*, which in profusion adorn the low hills of Paradise Valley near San Diego, and the *Calochortus* or Mariposa lilies, which lend so great a charm to the trip to the Yosemite, must be seen at home if one would appreciate their exquisite beauty of form and color.

been limited on the Altantic border. Among these, in whom we became more especially interested, we may name Professor H. N. Bolander, of San Francisco, Dr. William P. Gibbons, of Alameda, and the late Hiram G. Bloomer, Director of the Museum of the California Academy of Sciences.

Professor H. N. Bolander has for many years been one of the most active botanists on the coast, and from 1861 to 1867 was connected with the Geological Survey, as State Botanist. During his term of office and yearly since, he traversed the Northern and Middle sections, making extensive pedestrian excursions, and has been rewarded by the discovery of several hundred plants new to science. He has indeed been the largest contributor to our knowledge of the rich flora of California, and his extraordinary enthusiasm and success have received fitting acknowledgment at the hands of the Eastern Botanists who have studied his collections. Professor Bolander has added five new genera of plants, one of which, *Bolandra*, appropriately commemorates his service to science, while nearly one hundred and fifty species of Phænogams, Mosses and Lichens, have taken their specific name from him. In and about 1866, he collected and distributed about five hundred species of Californian plants, and in 1870 was published by A. Roman & Co., of San Francisco, "a Catalogue of Plants growing in the vicinity of San Francisco," of which he is the author. The term vicinity is stretched to the extreme of its elasticity, and is made to extend about one hundred miles North and South of the Golden Gate. This catalogue contains the names of nearly all the Phænogamous and Cryptogamous plants within the range indicated, and in the absence of a text

We were not surprised to find her botanists, inspired with a zeal for collecting and studying her flora, as much surpassing our Eastern students as does their field, that to which we have

book of the Californian Flora, is exceedingly valuable.

For several years past Professor Bolander has filled the very important and responsible position of Superintendent of Public Instruction in California. His term of office will soon expire, or has already concluded, and he is about to devote his extensive and accurate knowledge of the Californian Flora to the growth and dissemination of her many ornamental plants. He has erected propagating houses and will soon be prepared to supply a demand for her beautiful bulbous rooted plants, her ornamental shrubs and peculiar coniferous trees. To the study of the last named, Professor Bolander has given especial attention, and has succeeded in determining the numerous varieties, and fixing the true character of the species to which they belong. The distribution of seeds of native growth will also receive special attention at his hands. Professor Bolander is a gentleman of fine presence, of manners courteous and affable, with whom every Eastern botanist visiting California should at once become acquainted. His residence is in San Francisco.

EDITORIAL NOTES.

YEOLLOWS IN THE PEACH.—A correspondent of the *American Farmer* says :

"If the 'Yellows in the Peach,' is caused by a fungus on the root, why does not this disease show itself in Apricot and Plum trees, budded or grafted upon Peach roots?"

It is easy to ask questions,—not so easy to answer. It takes time to find out things,—and chiefly because there are thousands who write and talk, to every one who patiently experiments and observes. It is quite likely there are very good reasons why a fungus on a peach root will not affect a plum or apricot grafted on that stock. There are many vital things quite as curious as this one, about which—at least so far as we know—we have all to profess ignorance. For instance, we say this pear or that pear will not do on this or that soil,—and yet these pears are all grafted on pear stocks—seedlings of all sorts and kinds. One would suppose it was the roots and not the kinds grafted on them that had the selection of food, yet we see in these instances that the roots are under the influence of the variety grafted on it. So great is this influence on the roots, that often the whole charac-

of their growth is changed. If we take seedlings from a hundred different apples, in which the roots are all different, and on these graft 50 Maiden's Blush, and 50 Rhode Island Greenings, when the trees are dug up, a good nurseryman will pick out the fifty of each by their roots alone. It is easy to ask how is this? Again we graft a White Doyenne with cracked fruit, with a Bartlett, and the Bartlett does not crack,—yet the same elements nourish one as the other, so far as we know. Why? All we can say is that those who find the solution to these problems are welcome to the use of our pages.

VARIETIES IN ASPARAGUS.—It is a matter well worth a careful examination, whether there are more than one variety of asparagus. It is well known that the variety known as Lesher's Mammoth, is simply seed from Lesher's garden, which happened to be so constituted as to produce large "grass." Mr. Lesher never pretended, that we ever knew, that his original seed was from any other than common asparagus. As we understand it, Mr. Conover's is of the same character. We believe, a package of seed came from the Agricultural Department, and his plants are from this seed. Both Mr. Lesher and Mr. Conover produce large asparagus,—but no larger we think than we have seen ordinary asparagus grow. Still there is no reason why seeds should not be sold from these beds; as we have no doubt but that seed from well grown plants will always have a tendency to produce better stock than seeds from rubbish. Heredity is a well recognized law. If they are simply this and not seminal varieties, as the world understands it, it will not be long however before they revert to the original condition. We note that Professor Thurber, who is good authority on these matters, regards these plants as distinct varieties, and remarks that the fact that there are two varieties of Spinach, (which is also dioecious) takes away from the impossibility of asparagus breaking away also. In this sense we have never doubted the "possibility," as any one must know that there are distinct breeds among dioecious cattle,—but we suppose this requires great care to effect. The impossibility which we contend for is that any new variety of asparagus should appear by the chance process of numbers of seeds, as we understand is claimed for the Conover, the Lesher, and other kinds of asparagus. We have already referred to the fact that there are two varieties of asparagus, the green top and the

purple top, and this we take to be analogous to the round and prickly spinage. The whole subject is interesting, and we hope it will be further looked into.

WEARING OUT OF VARIETIES.—The Golden Pippin Apple which Thomas A. Knight asserted many years ago was "dying out," and which was one of the strongest facts in his celebrated theory, is said by a correspondent of the *Gardener's Chronicle*, to be doing as well in England to day as any other variety. At Sudbury House, it is the "healthiest on the place, and crops abundantly with elegant fruit." The subject has received a new interest recently, through a contribution of Professor Asa Gray to the *New York Tribune*, showing rather the possibilities of the subject, than offering anything new. M. Jean Sisley of Lyons, the well known raiser of Double Geraniums, has written to Professor Gray in reference to his paper. Mr. S. suggests that all forms in nature have a limit. This is true, and we suppose on this understanding all would agree that "varieties wear out." But we believe it was not in his extended sense that Mr. Knight offered his "theory." The question has been ably handled years ago by correspondents of the *Gardener's Monthly*, and we think a suggestion once made that the Red Dutch Currant, the Jerusalem Artichoke, or Bananas, would continue to give us Currants, Artichokes, or Bananas though not raised from seed, just as long in all probability as if they were, has not yet been met by any weightier probability.

BOTANIC GARDEN IN CHICAGO.—Active steps are being taken to have a Botanic Garden in Chicago, in connection with one of the public Parks. From the character of the men who have hold of it, the garden will be a credit to the City.

DO PLANTS ABSORB MOISTURE?—The *Garden* says: "It has recently been shown by M. Baillon that the leaves of plants are capable of absorbing water. He has been experimenting by sowing peas in a box of such a construction that the plants can be immersed in water without the roots or the soil in which they are growing becoming damp. He has kept peas alive for two months without giving the roots any water whatever, the soil being virtually quite dry."

Objection might be made, that in this case the moisture in the peas had no chance to evaporate, —unless M. Baillon's experiments—a full account of which we have not seen,—permitted of

evaporation between the immersions. The experiment is easily repeated. Will some of our readers try?

WEAKENING EFFECTS OF PRUNING.—Our readers will remember that we have often pointed out, that *growth* is not a mark of high vital power,—and that though a branch seems to throw out stronger shoots after being pruned, the effort is rather an exhausting one. In proof of this we have at various times referred to street trees often headed back,—willows when grown as oziers,—osage when grown as hedges,—which never grow as stout and always die more readily under adverse circumstances. We believe we have been alone in these observations, but we have recently found the following note in the *Gardener's Chronicle*:

"During the past autumn we saw at Blythe-field, the seat of Lord Bagot, a very remarkable illustration of the effect of close pruning on the constitution of a plant, as compared with a free extension of its growth. In one part of the pleasure grounds was a Hornbeam hedge of considerable age, and about 8 feet high, presenting the usual appearance of a hedge of this kind, that is to say, the individual trees bore a thicket of slender twigs, and their stems were perhaps barely as stout as one's wrist. From some cause or other the end tree of this line of Hornbeams had been allowed to grow unmolested, and while the constantly pruned plants were no larger than above indicated, the freely grown tree was a fine umbrageous specimen with a thick trunk, and a head at least 40 feet high. It formed a capital illustration of the truth, that constant repression is exhausting. There is, of course, nothing very remarkable in the fact recorded, nor does it teach any new lesson, but the accidental juxtaposition of the hedge and the tree brought out in strong contrast the different effects of the two systems of pruning."

ZERO IN ENGLAND—so it is said the Thermometer has registered the past winter.

PUGNACITY OF THE ENGLISH SPARROW.—An impression prevails that the English sparrow is quarrelsome; and is driving away our native birds. We have had occasion to note frequently the Snow bird and the Sparrow together this winter, and though rations were scarce there was no indications of hostility between them. On the contrary they seemed to be on quite friendly terms. We think there is some mistake in this popular impression, that they drive other birds away.

FORESTS AND RAIN FALL.—As we have given what purports to be positive and exact figures that there is no influence on the general climate by trees,—it is but fair that we give the positive and exact figures on the other side. Here are some :

"MM. Fautrat and Sartiaux have lately presented to the French Académie the results of certain experiments to test the disputed question whether forests increase or diminish the rainfall. Over the center of the Halette Forest they fixed the pluviometer, psychrometer, etc.; a similar set of instruments under similar conditions being placed above clear ground, 300 meters distant. Between February and July the total rainfall above the forest was 192.5 mm., above the clear ground 177 mm., or 15.5 mm. in favor of the forest. As regards degree of saturation, the psychrometer above the forest showed an excess of 1.3 per cent over the other; thus confirming their conclusion, that forests are vast apparatuses of condensation."

MOVEMENT OF THE SAP IN PLANTS.—Dr. M'Nab, of Dublin, has been making a further series of experiments on the amount of transpiration from the leaves of plants and on the ascent of sap through the stem, with the following results; the plants experimented on being the Cherry Laurel (*Prunus laurocerasus*), Privet, and Elm :—1. That under favorable circumstances a rate of ascent of 40 inches in the hour can be obtained. 2. That, contrary to the generally received opinion, direct experiment has shown that the upward rapid current of sap does not cease in the evening. 3. That checking the transpiration for a short time by placing the branch in darkness does not materially retard the rapid current of water. 4. That the removal of the cortical tissues does not impede the rapid current in the stem, which moves only through the wood portion of the fibro vascular bundles. 5. That a well marked rapid flow of fluid will take place in a stem after the removal of the leaves. 6. That fluid will rapidly flow downwards as well as upwards in the wood portion of the fibro-vascular bundles, as seen in a branch in which lithium citrate was applied at the top. 7. That pressure of mercury does not exert any very marked influence on the rapidity of flow, in the one experiment made with a pressure of 110.53 grammes of mercury. Dr. M'Nab points out with great force the disadvantage under which research in vegetable physiology labors in this country, from the fact that neither

at Dublin nor elsewhere is there a physiological laboratory in connection with a botanical garden, a conjunction always necessary for the carrying out of original research. Physiological botany may, indeed, be said to be comparatively at a standstill in this country on this account. Some time ago, the idea was mooted of adding a laboratory to the herbarium at Kew, but, from some inexplicable cause, the project was abandoned.—*Garden.*

QUERIES.

THUJA PLICATA.—A correspondent inquires if this is the Nootka Sound cypress, by which we suppose he means the *Cupressus Nutkænsis*, or *Thujopsis borealis* of some authors. It is quite another thing. *T. plicata* is but a synonym of the common arborvitæ of the Pacific coast, *Thuja gigantea*; though we believe in some English lists forms of the common American arborvitæ have been offered as *T. plicata*.

AGAVE VIVIPARA.—A correspondent inquires the native country of this plant. It is from Mexico.

CRACKING OF THE PEAR.—P. H. F. says: "I see by looking over the *Monthly*, 1860, page 94, a suggestion by Mr. Stauffer, the Entomologist, that the cracking of the pear might be owing to the larva of a very minute insect. What have you learned about the disease, and what is your opinion about the cause?"

[Knowledge of course progresses with the accumulation of new facts, and we hardly suppose in the light of new experiences, Mr. Stauffer thinks so now.—ED. G. M.]

DO PLANTS NEED WATER?—A correspondent says: "I have been much interested in your scientific views. I buy the *Monthly* bound at the end of the year. Will you give your reasons for thinking that roots absorb only watery vapor? If so, why such general need for firm potting?"

[If any one thinks plants need water, he can try by stopping up the hole in the bottom of a flower pot, in which a plant is growing. This will be one of the best ways of learning that the essence of all good culture is to get rid of the water in the soil as soon as possible. This is the great principle that underlies the practice of underdraining land. We want moist air in the

soil, not water. "Firm potting" favors a large amount of air spaces. If soil is moderately dry, the more we "pound" it, the more we pulverize it,—and pulverization means dividing into minute particles. The more particles the more spaces—the more spaces, the more porous is the mass. Every pore contains air, and this air is moist air, and it is on this moisture that the plants draw. There is no difference in the manner by which a root draws moisture from the atmosphere under the ground and that by which a root of an air plant draws moisture above the ground. If you take the earth in which a healthy

plant is growing, and handle it you will find no water in it; but you will find it *moist* enough to dampen a piece of paper perhaps. We do not know that any amount of pressure would squeeze water out of some soils in which plants grow healthy, though possibly moist air might be so compressed as to make water. Indeed the matter seems so clear to us, that we supposed it would only be necessary to state it as we have, to ensure conviction. And we wonder very much that writers still continue to use the word *water*, when they speak of the necessary conditions in the food of plants.—ED. G. M.]

Literature, Travels & Personal Notes.

COMMUNICATIONS.

RECOLLECTIONS OF AUSTRALIA.

BY W. T. HARDING, AGRICULTURAL COLLEGE,
COLUMBUS, OHIO.

When the morning dawned, a view from the elevated ridge where we passed the night, revealed a grand panorama of the Diggings. Having a letter of introduction to present to C. M. Hall, Esq., Her Majesty's Commissioner, I thought it best, for sanitary reasons as well as etiquette, to put the best face on for the occasion. To dandify was out of the question. And whatever Chesterfieldian graces we might inwardly possess, we certainly bore but little resemblance externally, to the cut of Beau Brummel.

In the ravine below, meandered a babbling brook, known by the pretty name of "Cut-throat Creek," which gently coursed through the charming glen of "Murderer's Gulch," to the alluvial plains of "Split-skull Flats;" and on to "Dead man's Valley."

Who could refuse to bathe in the "Pool of Siloam," in the "Waters of Jordan," or "Babel's stream," if the opportunity offered? We doubt if any of the readers could or would even object to take a bath in such Arcadian streams as these. Here was romantic scenery, in its wildest grandeur, with all the sylvan delights of a landscape, equal to the finest artistic conceptions of a Gainsborough or Turner, and in primeval beauty, far surpassing either Long Branch,

Newport, or Saratoga. But neither belles nor beaux were there. Only three travel-stained wayfarers "paddled in the burn," to enjoy their morning's ablutions. Like most of the forest rivulets, the water was shallow; nevertheless, there was sufficient for all detergent purposes, to make us cleaner, if not better men. Our toilet over, each shouldered his pannier, strapped knapsack fashion, and carried across the shoulders; marched along through the tented field. Early as it was, the dwellers in tents were up and at it, eager to find the big nugget, which had tempted them to come thousands of miles to unearth. As we walked along, the naturalist remarked, how much the shrubs reminded him of the gooseberry and currant bushes he so loved to be among when a boy, in the old gardens of Devonshire; and where he hoped, ere long, to enjoy them again. And he added, I would willingly give a guinea, for a ten minutes feast among the little Golden Drops, or big Crown Bobs, so sweet, and the rich black currants, which grew in the old parson's garden at Plymouth. The shrubs he had reference to, were *Hibbertia grossulariifolia*, or gooseberry leaved Hibbertias, of loose, or trailing habit; and *Pimelia drupacea*, a very free flowering dwarf shrub, producing abundance of fruit, resembling small cherries, or big black currants. The first named were numerous, with a few of *H. dentata*, well known as an excellent bright yellow flowering greenhouse climber.

In a little garden patch, near a miner's wig-

wam, were several handsome bushes of *Templetonia glauca*, an elegant little evergreen shrub, covered with a profusion of beautiful crimson flowers; and *Eutaxia myrtifolia*, a modest little shrub, with orange colored flowers; *Calothamnus villosa*, a showy shrub, attaining to about six feet high, and bearing a mass of gorgeous scarlet flowers. *Indigofera angulata*, a very attractive plant, often growing twelve feet high. The beautiful *Sida pulchella*, with the no less charming lilac flowering *Mirbelia reticulata*, and the rather scarce *Darwinia fascicularis*, is an uncommonly pretty red flowering decumbent shrub: and the well known greenhouse favorite, *Swalsonia galegæfolia alba*; and other equally interesting shrubs and herbaceous plants. I felt convinced that the owner was of the same profession as the writer. The many choice things within his garden, were all correctly named, with labels in the orthodox fashion; while several were neatly staked, and skilfully trained, in the best style in vogue in first-class plant establishments in Europe. Who ever has had a hand in training plants for such exhibitions as Chiswick, and Regent's Park, London, will understand what is meant by *skilful training*. For instance, as things of beauty, what could surpass the pot roses there? They were gorgeously grand, and far sweeter than ever bloomed in the Gardens of Gul, in "the clime of the East." *Pelargoniums*, too, each plant a paragon, arrayed in all their glory of brilliant coloring; and the no less splendid *Azaleas*, every one a perfect specimen, supporting a pyramid of lovely flowers, and the exquisitely beautiful *Ericas* and *Epacris*, blushing with a suffusion of loveliness, than which, nothing floral could well excel. All models of symmetry, evincing good culture. The few species named will suffice for illustration, but no pen-picturing of mine, can present them to the mind's eye, with half the charms they really possess.

Before us was the Commissioner's tent; at the front of which, a red-coated soldier paced his lonely rounds. We soon ascertained there was no admittance to that important functionary, for some time. Even the missive I bore, would not "open sesame," before office hours. From the appearance of things, we felt assured that the Union Jack would not wave over us, while breakfasting with Her Britannic Majesty's Commissioner of the gold mines. So accepted an invite from Boniface, mine host of "The

Old House at Home," near by. We were evidently in luck's way for once, for not only did we fare sumptuously at the "The Old House," which by the way, was a new canvas tent, but there fell in with a party of teamsters, about to return with their empty wagons to Melbourne. So embracing the opportunity, I sent down a package in care of Mr. Garvis, who promised to ship it to Adelaide, on his arrival at the port. A promise he faithfully performed. All being ready for the journey, we accompanied the wagon train some distance beyond the diggings, where we with many regrets, bid farewell to our good friend, with a heartfelt warm adieu. I had lost a friend for whom I felt the warmest regards. My heart seemed to go with him, as I watched him through the forest, until he disappeared in the distance. As I stood leaning against the trunk of a *Pisonia grandis*, listening to the last rumbling sound of the wagon wheels, I observed at my feet, and spreading among the bushes, one of the richest of nature's carpets. The ground colors were various shades of green, while slightly rising above was a floral pattern of red, white, and blue. The beauteous markings were somewhat evenly blended, and were composed of the lovely little *Leschenaultia formosa*, red, *L. biloba*, blue; with here and there, like snow-flakes scattered among them, were the pure white florets of *Monotoca alba*. A little beyond, was the curiously formed *Hakea suaveolens*, very sweet scented, if not beautiful; and among the branches above, was *Tecoma australis*, rambling wildly in a clump of *Acacias*, *Banksias*, and *Dryandras*. How much the pretty pale red lips and dark purple throat of the *Tecoma* flowers resembled a *Gloxina*. It is an old time favorite greenhouse climber, often seen covering the back walls and rafters of the old style plant houses in Europe. Near by was the peculiar evergreen shrub, *Lasiopteraton ferrugininum*, with a mass of glossy flowers, spreading over and closely covering both stems and foliage like a woolly fleece. The interesting little *Orchid*, *Glossodia minor*, a coy beauty in "bonnie blue," looked like "a timid wee thing" among the more garish beauties around, as it peered through a bed of the exquisitely beautiful fern, *Pteris scaberrula*. It seemed like a gathering of old acquaintances around me, as I recognized them one by one, and repeated their once familiar names. What a train of recollections came with them, of the days of yore! They seemed to whisper hopes of happiness, and tales of distant lands.

While quietly and happily communing with Nature, my reverie was disturbed by a strange gabble of Babel-like tongues; which seemed to spread through the bush. A long acquaintance with the denizens of the forest somewhat accustomed me to the unearthly shrieks, hoots, and yells of the feathered tribe, whose discordant noises are really distressing to sensitive ears. Especially is it painful to those who were nurtured in the land of song, where the wood note, sweet and wild, of many a forest bird, greets them with their soft sweet carols. One naturally expects to hear better music from performers attired in such brilliant plumage. But the jargon is not the din of bird gabble, which gradually increases and becomes louder, as a long file of "Heathen Chinee," emerge through the bushes, and march by. In true Oriental fashion, just as John Chinaman is pictured on the tea chests, the almond eyed, pig-tailed celestials, passed on. Neither were they lacking the long bamboo pole, (which seemed rather inconvenient in the forest,) and like a long scale beam, balance over the shoulder, and attached to each end were any number of bags, bundles, gongs, boxes, mining tools, etc. Their leader, perhaps a lineal descendant of the great Whang-ti, or Confucius, and dressed in better style than his followers, stepped jauntily along at the head. He, certainly, was in light marching order, and carried but a medium sized package, probably the cash, opium, Bhang, or Shamshu. Making me a profound salam, and saying chin, chin, he passed out of sight. I believe the Chinamen fared better at the Australian mines, than their brethren did in California. With all their peculiarities, they were a peaceable, frugal, and industrious people, and no doubt, many of them returned to the Flowery Land, as rich as Mandarins.

EDITORIAL NOTES.

THE ROSEDALE NURSERIES.—We observe with some regret, that after this season, Mr. Buist will retire from the nursery business,—and yet the public can hardly expect further service from one who has done so much for it. Horticulture owes much to many, but to none more than to Mr. Buist, whose life has been spent wholly in the cause. Though out of the business, we trust he may have many "remaining years" among us to enjoy the floral pleasures he has helped so many others to.

HISTORY OF THE NARCISSUS.—A remarkably interesting history of the Narcissus is given in Mr. Robinson's *Garden*, by Mr. J. C. Nevin. The "Hoop Petticoat Narcissus" belongs to *Narcissus Bulbocodium*, a native of the Mediterranean and Northern Africa,—the common Daffodil, is *N. Pseudo-Narcissus*, and is from England and the North of Europe. The sweet scented Narcissus is *N. odorus* of Linnaeus, and is from Spain and the South of France. The Jonquil is *N. Jonquilla*, and native of the same country as the last. The Common or Poet's Narcissus, and which was once the young man who thought himself so pretty, and thus became an awful warning to the young fops of the present day, is the *N. Poeticus*. Mr. Nevin describes and gives notes of 22 species, and figures of most of them.

POPULAR SCIENCE MONTHLY.—The February number contains a portrait of the celebrated blind naturalist, Francis Huber, with a sketch of his life and wonderful discoveries in the knowledge of Bees. The account is like a romance. We do not know that we ever read a paper more calculated to put people in love with a study of nature than this life of Huber. A study of Birds nests, by Abbott in the same number, is of a similar character.

THE CANADA FARMER.—This excellent Monthly bears the same relation to Canadian Agriculture, that the *Country Gentleman* does to that of the United States. We value it as highly as any agricultural paper that comes before us. It is now in its 12th year.

THANKS—Are due to many of our contemporaries, and especially to the *Maine Farmer*, for kindly notices of our work. It is a pleasure to us to feel that during so many years we have retained their good opinion, which we shall strive to merit to the last.

THE HOME FLORIST.—By Elias Long, Buffalo, New York. One of the most common questions put to a nurseryman by those who do their own gardening, is where can I find a cheap and yet practical guide to the culture of common flowers, and those little matters of gardening which practiced florists are supposed to know, but "we do not?" This little book of Mr. Long's is just the thing for them. We regard it as calculated to be of immense service to floriculture, and we cordially recommend the book to our readers.

There is one point in it which will make it popular with florists and seedsmen, who may desire to sell the book to their customers. Though

it is written by a member of a popular nursery firm, there is no reference to the firm in it. It is simply what it professes to be—*The Home Florist*, intended to travel on its own merits alone. The copy sent us we presented to a lady friend, who emphatically assures us it is just what she wants.

BULLETIN OF THE TORREY BOTANICAL CLUB. This is one of the most unpretending, yet one of the most useful of any botanical serials published. The Torrey Botanical Club is an association of Botanists in and around New York City; but the Bulletin publishes anything of universal as well as of local interest. Prof. Thurber is president since Dr. Torrey's death. With the last number issued is a photograph of this distinguished man.

PETER HENDERSON'S CATALOGUE.—With this appears this season colored illustrations of the following new Roses: Louis Gigot; Mad. Capuline; Mad. de St. Joseph; Douglass; Mad. St. Dennis; Marie Duchere; Mad. Margottin; Marie Sisley, Mad. Kuster; La Nankin; La Jonquil; La Phœnix.

WHAT IS EXPECTED OF A GARDENER.—The following curious law report is from the *Gardener's Weekly Magazine*:

"The Hampshire *Independent* reports, from the chronicles of the Newport (Isle of Wight) County Court, a case of material interest to gardeners generally, and to under-gardeners in particular. A young man named Ridge was engaged by W. A. Glynn, Esq., of Fairy Hill, as under-gardener, at the munificent wage of 14s. per week; but the employer, evidently seized with a fit of remorse, shortly advanced his weekly remuneration by the addition of another shilling. Ridge came out of Gloucestershire, and it was agreed that if he remained at Fairy Hill a year should receive £1 for his traveling expenses; doubtless a safe, but scarcely a liberal, condition. During his engagement he was put to clean out the spouts round the farm buildings, and also to sift some ten or twelve loads of ashes, evidently for farm use. This work he refused to perform, taking his stand upon the principle that he was engaged to do an under-gardener's duties, and not the clean-out of spouts around farm buildings, and the screening of several loads of ashes, was properly the work of an unskilled laborer, and not that of a skilled under-gardener. Thereupon his employer waxed wroth, and being a justice of the peace, at once displayed his notions of justice by discharging Ridge at a moment's notice. Ridge

accordingly took exception to Mr. Glynn's notions of equity, and he therefore laid a complaint in the Newport County Court, before that able lawyer, Judge Gall, the plaintiff claiming 12s. 6d. for remainder of week's wages due, and his 20s. for expenses in coming from Gloucestershire. This latter sum the judge told him that he could not recover, as the conditions attached had not been fulfilled; but he gave him judgment for 12s. 6d. wages due, clearly stating, 'he took it that an under-gardener was a skilled person, and sifting ashes did not come within his province. It was a laborer's work. As both parties stood upon their strict rights, he held that sifting cinders was not proper work for under-gardeners.' No doubt this is a somewhat extreme case, as, whilst it is seldom that gardeners have to perform unskilled farm work, it is also equally certain that there are few under-gardeners who would refuse to sift a few cinders for the garden fires occasionally. Nevertheless, the judgment affords distinct proof that in the eye of the law gardening is a skilled profession."

THE SOUTHERN APPLE AND PEACH CULTURIST.—By James Fitz. Published by Randolph & English, Richmond, Va., 1872. Though so long before the public this has but just made its appearance on our table,—but though late we welcome it, as we do everything calculated to improve the horticulture of the Southern States. Our country is so large that a work devoted to the wants of the whole is well nigh impossible,—and hence it is essential that we have good works devoted to special sectional needs. So far the South has produced few local works,—or if it has they have fallen out of our regular line of observation. This book contains over 300 pages, and is beautifully gotten up,—better indeed than some of our Northern Horticultural works, were, one would suppose from the greater prospect of good sales—horticulturists being more numerous—there would be more inducement for literary taste.

In regard to the matter of the book, it seems to us that any thing that any Southern man or woman desires to know about the apple or the peach, will be found within its pages. It embraces not only the classical history, but an account of the minutest details of culture. One of the peculiar and special features of the book is its lists of fruits adapted to the many localities that the work is intended to serve. We should expect to see the book in every Southern horti-

cultural library, and it will be valuable as a reference in any Northern one.

GORDON'S PINETUM.—The new edition will soon be issued from the press. This will give the latest information about Coniferous plants.

DOUGLASS & SONS Catalogue, Waukegan, Ill. We are often asked to "notice our catalogue," by good friends, whom we would gladly serve; but there are too many for our space. We cannot in fairness do for one what we have no room to do for all. But here is one we have not been asked to notice,—and we do so only because we want to commend the effort which it exhibits, of trying to put rare and expensive evergreens within the reach of every one.

HANDBOOK OF THE KANSAS AGRICULTURAL COLLEGE at Manhattan, gives an excellent account of the doings of the Institution. Botany, horticulture, and agriculture, have eminent prominence among the branches taught. J. A. Anderson is President of the Institution. Women are educated here equally with men.

EDUCATION.—C. C. Cochran, Central High School, Pittsburg, Pa., asks us:

"1. What, in your opinion, are the most radical defects in our present system of education?

"2. How can these defects be remedied?

"3. What effect would a wise system of Technical education have upon our Commercial Manufacturing, Mining and Agricultural interests?

"4. To what extent do other countries absorb our trade? Give instances, and as far as possible, statistics."

Our idea is that children are taught to *remember* too much, and to *think* too little,—they hear more than they ought (for reading is only hearing at second hand) and do not see enough; and then they have every thing found for them, instead of being encouraged to find out things for themselves. In brief they are *educated* too much, and *directed* too little. Again they are at school too long. One who has no knowledge of labor till he is a man, will want to live the rest of his days by his wits, rather than his hands, which is not a wholesome condition of society.

TOBACCO.—The *Lancet* tells of a markable instance of tolerance by the human system of the excessive use of tobacco which is afforded in the case of M. Klaes, of Rotterdam. This gentleman, who was known as the "King of Smokers," died some time since, in his 80th year, and is said to have consumed during his long life more than

4 tons of tobacco. The ruling passion was apparent in the will of the deceased, in his eccentric request that his oak coffin might be lined with the cedar of his old cigar-boxes, and that a box of French Caporal and a packet of old Dutch Tobacco might be placed at his foot, and by the side of his body his favorite pipe, together with matches, flint and steel, and tinder.

THE SOCIAL VISITOR, is a new monthly issued by Prof. Knowlton, Buffalo, N. Y., and of which the first number is just to hand. It seems especially aimed at diffusing a substantial knowledge of practical things among young people.

EATING FOR STRENGTH.—By Dr. Holbrook, published by Wood & Holbrook, New York. To one who is in health, food is a matter of little concern. What the generality of mankind have found eatable, he takes as it offers. There are of course special likes and dislikes to which all are subject, but as a matter for special study in relation to growth or strength, it is one of secondary concern. Good health takes all and is satisfied,—sickness wants and wonders, and is hard to please.

"Eating for Strength," as a title, hardly does justice to this little book. There is very much in it that will interest those who eat for pleasure as well.

PROGRESS IN OUR KNOWLEDGE OF NATURE.—The following beautiful passage occurs in a speech of Hon. Marshal P. Wilder, recently made before the New England Historical and Genealogical Society. It is pleasant to reflect that in the great march of knowledge, those who love plants and flowers hold no mean position:

"Never before has the attention of the civilized world been so thoroughly aroused in efforts to promote investigation and discovery, and to enlarge the sphere of human knowledge. Every day brings to light acquisitions which surprise mankind. Nor are these confined to earth, air and water; but man, ever restless man, not content to harness the lightning for his use, directs his vision to the skies, and, as it were, compels the celestial orbs to unveil themselves to his eye, and to transmit their image and substance to earth. Nor does he, in his desire for more light and knowledge, hesitate to enter the very council chamber of nature's laboratory, and seizing the secrets of her wonder-working power, learns how she paints the lily, perfumes the rose, and from the tiny seed raises the monarch of the

forest recording by its own tissues as correctly as the chronologist an age anterior to the birth of our Saviour."

ELLWANGER & BARRY'S CATALOGUES.—We have occasionally called attention to the remarkable degree of excellence which American catalogues have over Europeans. Here is another illustration. In a set before us, we note that the number of pages are two hundred and

twenty-five. Can European firms show anything like this?

REPORT OF THE DIRECTORS OF THE ARNOLD ARBORETUM OF THE HARVARD UNIVERSITY.

—Under the Direction of Professor Sargent this is fast becoming the best arboretum on this continent. The list in this pamphlet of those now growing is quite large, though only dating from September, 1872.

Horticultural Societies.

COMMUNICATIONS.

CULTIVATION IN ENGLAND AND FRANCE.

ADDRESS BY J. JAY SMITH, PRESIDENT OF GERMANTOWN HORTICULTURAL SOCIETY.

(Concluded from page 59.)

Many wealthy persons, even the highest in title, dispose of their surplus fruit, and it is not uncommon to hear that this surplus pays all expenses in a country where the regular wages of a good gardener is but twenty-one shillings a week; and often not a penny for extra work is expended on places with one gardener, who cares for an acre or two, as well as a grapery, peach house, wall fruit, and any quantity of flowers, a fernery, and a small vegetable garden. The latter is often very restricted in its contents, two vegetables at a time satisfying the family, and these, according to our tastes, not the best.

They have a poor insipid article in their vegetable marrow, which looks well when cooked and is simply ornamental. To enter into particulars: A dinner at a first-class hotel, say at a watering place of celebrity where there is a table d'hôte, is good enough if it has two vegetables, and rarely do we see more. Potatoes cooked in a single mode and vegetable marrow one day, and string beans about as good as saw dust, for variety, the next, without the marrow, and in the early season sometimes green peas, which are dear. For a whole month at Saltburn, near Scarboro, which it proposes to rival, we never saw salad, beets, lima beans (there they do not grow), squashes, egg plants, salsify, ochre, or spinach. Some of these, it is true, were not in season, but the substitutes were. Celery is a scarce article, as the gardens

show; carrots, onions, and parsnips but little grown in comparison; as for sweet potatoes, our universal favorite, they are utterly unknown and unthought of.

One day I saw that the fates had been propitious in calling out field mushrooms; a nice boy brought a fine basketful of this blushing and delightful esculent; I staid a moment expecting that the whole invoice would be eagerly snatched up by our good landlady; no such thing! She purchased a pint for three pence, and we had that day on the bill of fare the novelty of "beef-steak avec champignons;" nobody detected the taste in the diluted dish. We must thank the English for demonstrating emphatically that a woman "can't keep a hotel!" Many of them seem to study only the discomfort of their guests. Why place a woman to command the men, in a position she does not understand?

It would be curious to ascertain what our cousins did eat before the potato was introduced; to this day they don't know how to fry it. Cranberries they have barely heard of, and they do not use them; the same perhaps may be said of the caterers of some ocean steamers, where this acceptable article, celery, onions and fruit, so much craved by the sick and disgusted, are too rare. Oysters in the shell could be served the whole voyage out from America to Liverpool, as was proved by an enterprising Philadelphian, who sent them opened, to our end of the table to the close of the trip. When will caterers learn that a small expenditure will bring a return of a thousand per cent.

But while we can decry the English table for its want of variety in vegetables, it is fair to add that the salmon is so plentiful, and their mutton

so good, that they go a considerable way to reconcile the stranger to his great privations. I happened into the gentlemen's smoking room of the Illinois on the last day of the return voyage. It reminded me of Carlyle's "tobacco parliament" of old Frederick, but the conversation was not of war or statesmanship; it was not of the Fine Arts, nor was it of books, or greenhouses, or of rock work. Each member of the "parliament" was confessing; confessing his needs and prospects of an appetite on landing. One passenger declared most decidedly that he would rush for oysters; a second thought egg plants would be his first choice, but he said thoughtfully and plaintively, "one can get them properly cooked only at home." Reed birds were voted for by some of the honorable members, but a good Yankee got the laugh to himself for invoking a *pumpkin pie*. Alas! the sorrow, if not tears, that peaches would be over! And here let us remark that a good peach picked from the peach-house at the happy and ripe moment is a good and commendable article. I saw many trees that produced each an average of eight dozen, ripe and handsome. A peach and a Seckle pear are good only *when ripe*. I caught a handsome dame and her two daughters anxiously placing a net under their peach trees indoors, to prevent the fruit from falling on the ground far enough to bruise and open them. As to fine grapes indoors, there is apparently scarcely an end to the luxury; the climate admits of their remaining in a ripe state a long time on the vines; a few, daily, for months are better than a vast surplus all at once. Great success attends the cultivation of the pine apple; an English pine being better than one gathered in its native tropics. But enough of gastronomic subjects though they are important even to the traveler, and should be to the English, who partake of at least four meals a day with wonderful appetite.

The cultivation of evergreens is still a hobby with many, but not so much so as formerly. Probably the Deodara takes the precedence, the climate about London rendering it in its spring dress particularly unrivalled. I expected to find gentlemen founding new places, planting many of the noblest tree so adapted to the climate, the Cedar of Lebanon, but I saw few of modern date. Those that have the admiration of the world are not numerous, and were planted in the time of Cromwell, to commemorate his reign, said one intelligent Englishman. This

tree grows too slow for the modern planter, and takes too much space in small grounds; but its absence in many fine places visited, seemed lamentable. Is it a piece of vanity in your narrator, if he just hints to you that he has left in more than one English County, specimens of this noblest of trees, which some of your great-grandsons may yet smoke a pipe under?

And now, how to describe the difference between the English garden and that of America in this latitude! In the first place we have no substitute for their broad leaved evergreens, as the *Aucuba Japonica*; now vastly improved by the finding of the male plant, and consequently berries of a good color, much enjoyed by the birds; and the Laurel, especially the Portugal, which make such fine panorama of undergrowth; and then the Rhododendron flourishes in the vicinity of London, and south of it with a luxuriance and variety unknown here. The Mountain Laurel of our State rivals it as one plant of one color, but hybridised and Himalayan plants of all shades, and in banks of thousands upon thousands, we can scarcely hope to attain, nor are we able to domesticate our native so as to be so unapproachably healthy and beautiful. We can and do have these plants, but, alas! in what a different condition, state of health and diffusion in private homes! A poor fellow condemned to death had a friend consigned to pass the last night of his earthly existence in his cell, to come to him. When asked what he said to enliven the immediate prospects of a horrible death, he said, he told the condemned man "*Pooh, pooh! never mind!*" We are apt to say "*never mind*" and pooh, pooh the facts of the case, but it remains true that we are short in Rhododendrons, compensated however somewhat by other advantages. As a general remark I would say our people do not give sufficient encouragement to the nurserymen.

The "Italian garden," as it is called, is much in vogue. Novel patterns for the beds are studied largely, planted with choice colors combined in every form. When in bloom the effect is excellent; it has taken the place of what but recently was thought to be a permanent institution—the ribbon gardening—but which has been found monotonous and less pleasing.

In France a very little advance can be discovered in horticultural matters. Their parks are still very imperfectly planted; evergreens either do not succeed well, or are not admired. The poor Bois de Boulogne, so near Paris, suffered se-

riously during the siege ; some old trees remain, but young plants of a most monotonous succession of the same kinds prevail. Yet it is a noble drive, its waterfall, and its lakes still admirable ; but France has long wanted a Louden, a Paxton, or a Downing to lead the public taste ; indifference seems to be the prevalent difficulty to advancing. In small flower beds and in rose culture, the French still hold their own, but what cannot we pardon in a people who feel that they are living on the edge of a volcano which at any moment may belch fire, and sulphur, and extinguish all their labor ! A people that only the other day were eating the animals of their grand Acclimatization garden, and bought steaks of elephant, kangaroo, lions, and tigers, and so forth, and rejoiced in potage of cats and dogs, if even such a luxury was attainable. The wife of our concierge had a favorite cat that she was determined to preserve alive during the siege, and never permitted it to descend to the street where a sentinel was posted. One morning, however, the animal was not to be found ! Our witty Frenchwoman suspected the sentinel, and determined to know if he was the "cannibal," as she called him ! Approaching the sentinel she deplored her loss, and pitied the happy devourer of her pet, for, said she, that cat had the small pox ! Ah ! Sacre, said the guard, if I had known that I would not have eaten her ! The thief was ingeniously detected. She declared that her fellow servants, left with her in charge of the property, looked like "parchment mummies," when the Prussians marched away ; they had existed on an ounce of meat each, which was left at the door by the municipal government each morning. Alas, poor France ! she is almost beyond praying for ; and yet to a visitor's eye there is almost the same Paris he saw years ago ; the equipages are as showy as ever, and not unfrequently drawn by four horses in high condition. The streets are still gay, the shops most attractive, and folly reigns as of old ; a little subdued by sad memories perhaps, and the absence of a profligate and expensive court ; you are as liable to fraud and deception as ever, and yet there is an undertone of improved thoughtfulness in society while the Protestants are exerting themselves with good effect to insure reform. But, Oh ! the mortified Frenchman ; get into his inner man, and you find a concentration of disgust which must always follow a nation that attempts to live without God, and which elevates to power

the wicked as a preference over the good.

As to the cost of things in general. We used to think Old England was dreadfully, unbearably taxed, but the reverse is the fact to-day ; the taxes at home are probably more than double on real estate, and we all know the prices of clothes, etc. It is a fact that bricks have been sold not very long since for fourteen shillings the thousand, while they were twelve and fourteen dollars here. No secret that we pay twice or thrice as much for many things as they cost in Europe. This is partly owing to the late war, and so far we ought to be content ; but we are also overborne by unprincipled rings and jobbers, and wicked men rule over us. Reform should be, and perhaps is, now the plan.

I am old enough to remember Europe when there were no railroads ; it is now bisected with them, and everybody seems to be set in motion. They have induced new modes of employing time, and new amusements. Not the least interesting is the Aquarium with its living prisoners at home in confinement. The Brighton Aquarium is much visited ; quite 20,000 persons, mostly excursionists, went in on the day we saw it. The proprietors were just proclaiming a new and great attraction—they had received alive, ninety of the great odd looking horse-shoe crabs from the Jersey coast.

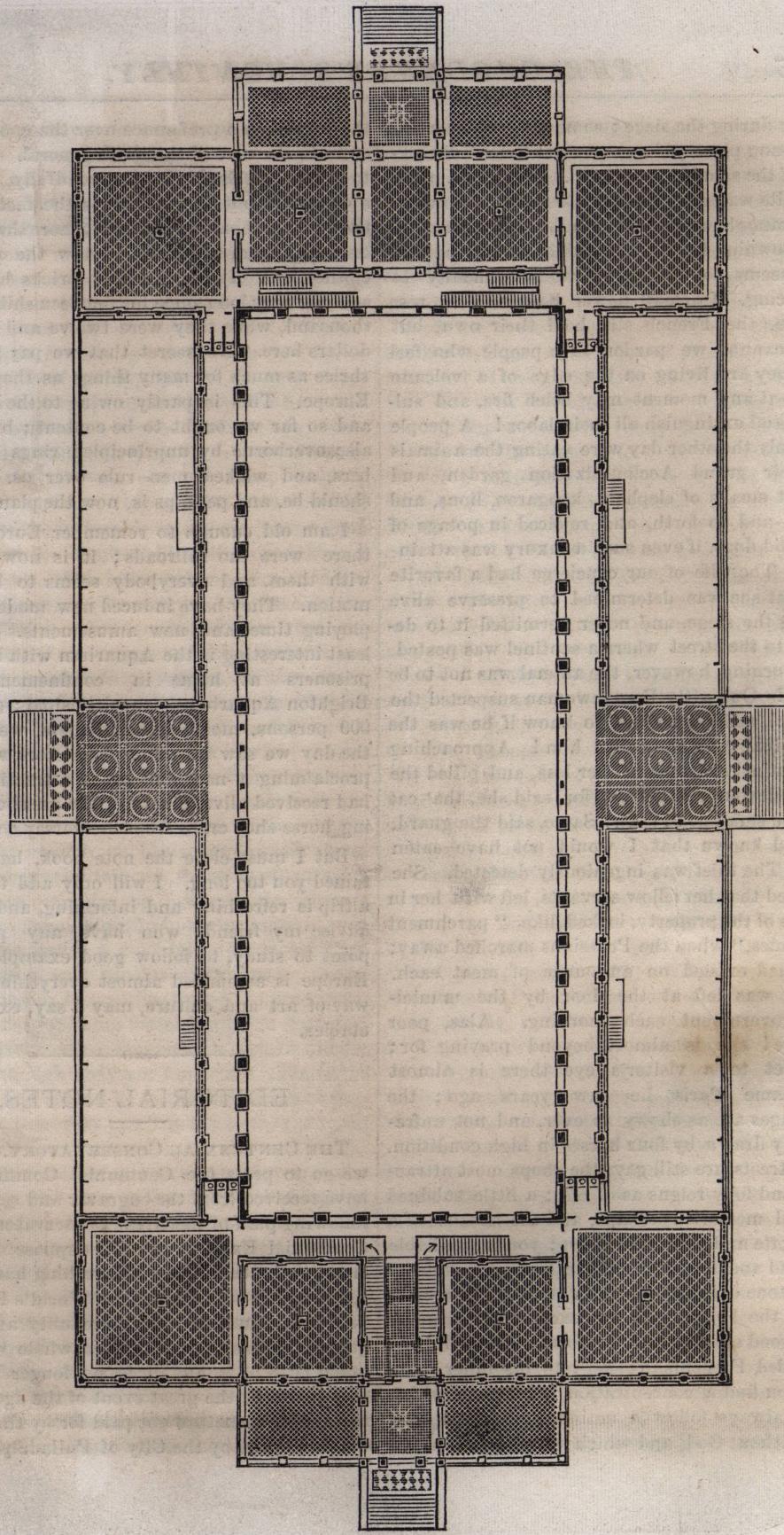
But I must close the note book, having detained you too long. I will only add that such a trip is refreshing and informing, and I would advise my friends who have any particular point to study, to follow good examples, for in Europe is assembled almost everything in the way of art and culture, may I say, except vegetables.

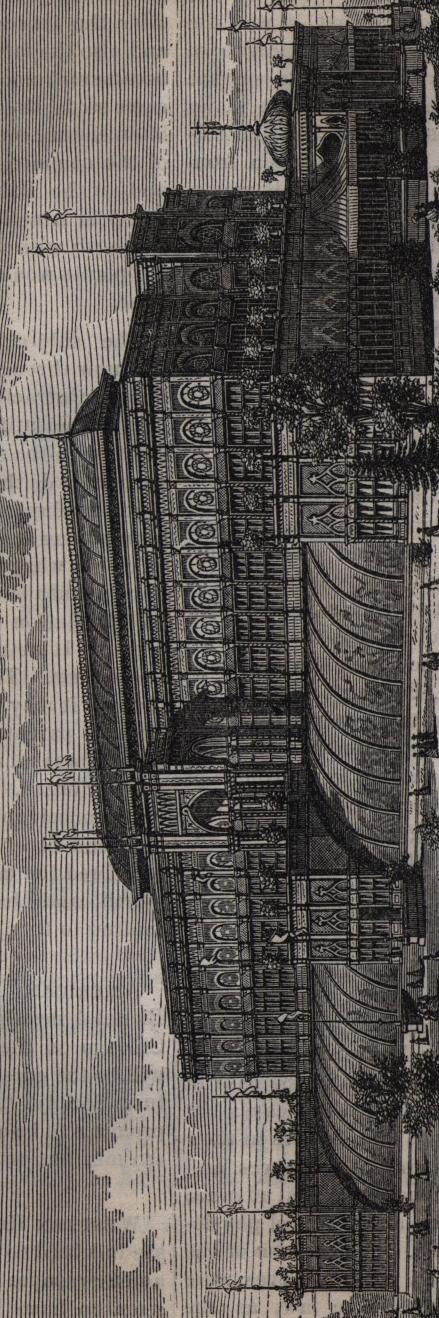
EDITORIAL NOTES.

THE CENTENNIAL CONSERVATORY.—Just as we go to press the Centennial Commissioners have received from the engraver and sent us the following plan of the Great Conservatory for the Centennial Exhibition. We suppose our readers know by this time, that nothing has failed in the carrying out of this great World's Fair. Its very magnitude created incredulity and consequent coldness at first, but the whole world has taken faith in it, and it is no longer in doubt that it will be the great event of the age. It is a permanent structure not paid for by the Centennial funds but by the City of Philadelphia.

GROUND PLAN OF CENTENNIAL CONSERVATORY.

CENTENNIAL CONSERVATORY, FAIRMOUNT PARK, PHILADELPHIA.





ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA.—*Worm in an Apple.* At the meeting of February 2d, Professor Joseph Leidy referred to a worm found in an apple, by Dr. Kerr, of York, Pa., and said that it was the *Mermis albicans*, and that it was a parasite of the codling moth. He was very glad to see the specimen, as the one he had first seen many years ago, and which was preserved in the collection of the Academy, had been taken from the mouth of a child, and at that time it was a mystery how it came there. But now he could understand that the child might have been eating an apple. It must be rare for them to be found in the apple; they usually follow the larvæ to the ground. The worm was several inches in length, colorless, and as fine as a thread of silk.

—*On Increased Power in Plants to Resist Cold.* At the meeting of February 9th, Mr. Thomas Meehan referred to a tuber of *Solanum Fendleri*, exhibited by him some months ago, and which had taken a departure towards those of the common potato. He had offered some suggestions in relation to the possibility of a common origin of these two species, but among the improbabilities he had classed the power of resisting cold, as, while the common potato was easily destroyed by frost, Fendler's potato endured without injury a temperature of zero. He had been under the impression that whatever changes plants might experience in the course of ages, the adaptation to special temperatures was nearly if not quite unchangeable. A recent experience, however, suggested the possibility of more change than he had supposed. During the very low temperature with the high wind of a few weeks ago, the frost to the extent of two degrees or so, and for a short time, got into a greenhouse with blooming plants, some of which were injured by it. Among these were Calla *Aethiopica*, Browallia elata, Bouvardias, Begonias and some others. The light frost in the case of all but the first named, destroyed the leaves but left the flowers uninjured. The flowers in their several parts are but metamorphosed leaves, and thus we see that with the morphological advance of the leaf to a petal came an increased physiological power to resist cold. In the case of the Calla the flowers as well as the leaves were destroyed, illustrating the same law, as the spathe of this flower is but a leaf very slightly differentiated, and consequently more subject to the laws regulating leaf life. There was nothing

quite new in these observations, as all must remember that when the first light frost killed the Dahlias, Chrysanthemums and other tender plants, the petals would often remain uninjured after the leaves had been blackened by frost; and also the fact that when the leaves of plants became still more highly metamorphosed, and became seeds, those of the tenderest plants would often endure considerable cold. Thus the seeds of the common Convolvulus or Morning Glory, and of the Balsam or Lady's Slipper, as it is called in American gardens, would live out in the earth with us and grow in the spring, though the plants would be killed by a single degree of frost.

The subject is attracting some attention just now through a paper of Professor De Candolle, abstracts of which are now going through scientific serials, in which he is made to say that in the many changes which species have encountered through the course of ages, the peculiar adaptation to special temperatures has been among the least changeable of characters. Of course what are known as theories of evolution hardly find a parallel in the cases he had referred to. Evolution deals with the modification of organs. It is still the same organ though changed in form. The modified leaf is still a leaf, though it may come to be specifically distinct from its parent. In the cases he brought forward it was an absolute change of one organ to another organ. Yet he thought it was impossible to conceive of evolutionary movements wholly independent of morphological laws. However he offered the facts for whatever they might be worth, and the suggestions on them, only as leading to thought on the greater question.

AMERICAN POMOLOGICAL SOCIETY.—The Biennial meeting will take place this year in Chicago on the 8th of September. The Society will be the guests of the Illinois State Horticultural Society. From all we can learn the event promises to be one of great interest. The western men are working energetically to this end.

WESTERN HORTICULTURAL SOCIETIES.—We are indebted to many good friends for abstracts and newspaper accounts of many of these, which seem to have been unusually interesting and well attended this year. Though not able to use them all immediately, good use will be made of them in time.

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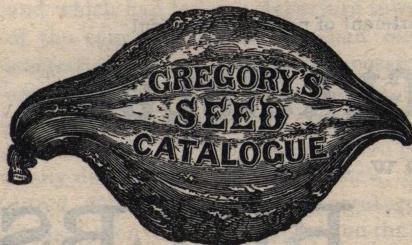
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MY ANNUAL CATALOGUE of Vegetable and Flower Seed, for 1875 will be sent free to all who apply. Customers of last season need not write for it. In it will be found several valuable varieties of new vegetables introduced for the first time this season, having made new vegetables a specialty for many years. Growing over a hundred and fifty varieties on my several farms, I would particularly invite the patronage of market gardeners and all others who are especially desirous to have their seed pure and fresh, and of the very best strain. All seed sent out from my establishment are covered by three warrants as given in my catalogue.

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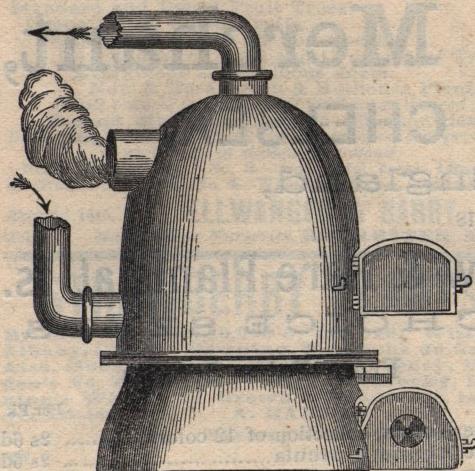


Fig. 1.

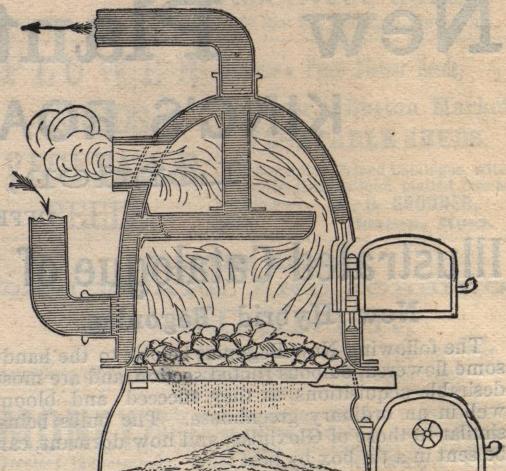


Fig. 2.

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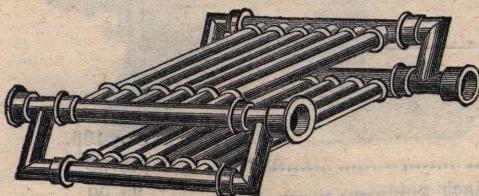
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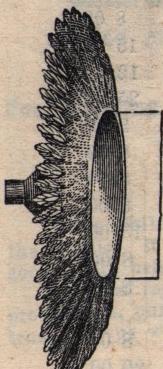
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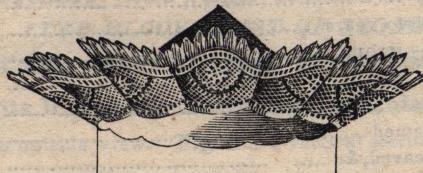
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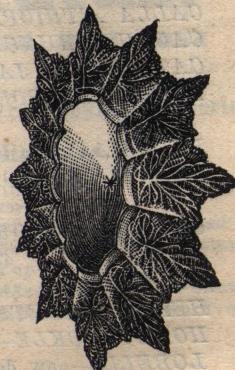
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FOR GREEN-HOUSES, GRAPERIES, &c.

Boilers, Heating Pipes, Expansion Tanks,
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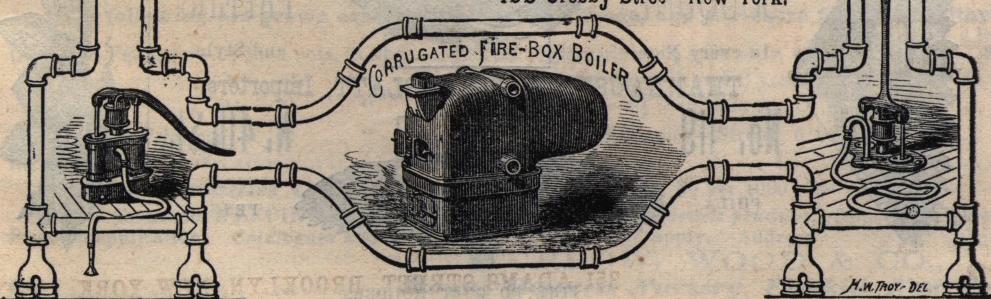
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THOMAS J. MYERS & SON'S Patent Boiler & Improved Hot Water Apparatus,

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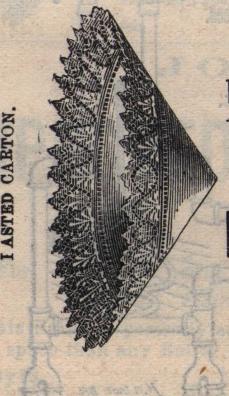
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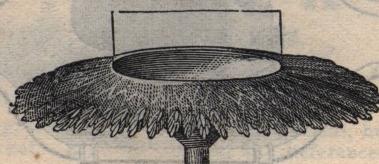
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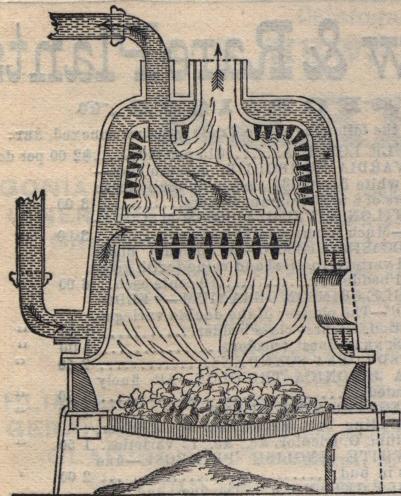
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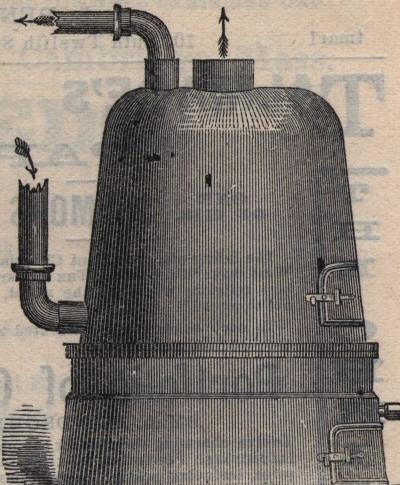


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Proper steps have been taken to secure United States
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Now Ready for Delivery;

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Bedding Plants—A general assortment at Low Rates.

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Cyclamen Persicum—3½ inch pots, in bud.....	\$20 00	Echeverias—3½ inch pots, 4 sorts	\$ 8 00
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SOME 5000 WELL-GROWN PLANTS
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Spring lists free, or the set of four catalogues post free
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NEW BOUVARDIA HUMBOLDTI corymbiflora—	
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One year plants.....	\$15.00 per thousand.
Berberry, one year, 3 to 8 inches.....	5 00 "
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Early Blood Turnip Beet; for market gardeners and all others

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Two fine two-year-old vines of this variety, sent by mail post-
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Although not strictly new, this exceedingly valuable little plant is almost entirely unknown in this country. Having tested it thoroughly for nearly two years, in every possible position for bedding, hanging baskets, vases, specimens under glass, &c., we have no hesitation in recommending it as one of the neatest and most attractive miniature plants with which we are acquainted.

The habit is very dwarf and compact; color of the small leaves, dark glossy green; flowers bright lilac, and produced in great profusion all the year round, beginning even with the cutting in the sand-bed.

Sent by mail postpaid on receipt of the price, 75 cents each, \$6 per dozen.

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9 Acres with Buildings, Fruit Trees and all other Improvements. To be sold on account of age and declining health of proprietor.

Price \$7000. Half Cash. Balance on Time.

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AMSDEN JUNE PEACH—“Unexcelled for Eatliness.” Good every way in tree and fruit. \$1.00 each by mail; \$50 per 100. Circular free.
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ROCHESTER COMMERCIAL NURSERIES.

[Estab'd 1830.]

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Will mail to applicants, free of charge, their New Catalogues of

VEGETABLE SEEDS,

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SPRING BULBS,

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We are extensive growers of General Nursery Products, Seedlings of Apple, Pear, Osage, Honey Locust, Timber Trees, Evergreens, Small Fruits and Hardy Ornamentals. Also, of Stove, Greenhouse and Bedding Plants.

Our new conservatories will compare favorably with any in the country. To the trade in the South and West we can offer many items at low rates.

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A French and German Correspondent attached to our house. Respectfully,

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EVERGREENS,
DECIDUOUS TREES,
DECIDUOUS SHRUBS,
GRAPE VINES,
Currants,
GOOSEBERRIES,
RASPBERRIES,
RHUBARB and
CLIMBING PLANTS

Which have been recently transplanted and are now in fine condition. Send for Wholesale Catalogue, and let us know what is needed in our line.

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Queen Victoria Pelargonium (with colored plate)—A magnificent new flower with a set of new fine varieties.

Zonal Geraniums—Dr. Denny's and other fine new varieties.

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New Crimson Tea Rose—Duchess of Edinburgh—The greatest novelty that has appeared among roses for many years.

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Pentstemons—Dahlias—Gladiolus—
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NEW AND RARE PLANTS.

New Fruits.

Souvenir du Congress, Beurre d'Assumption, Brockworth Park and other new Pears.

Early Beatrice, Early Louise, Early Rivers, with a set of other new Peaches.

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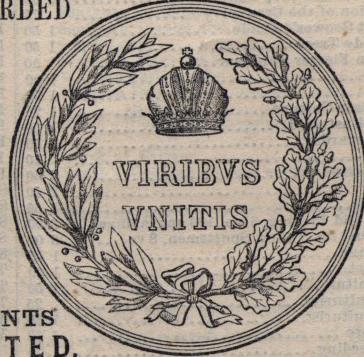
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